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ABSTRACT

A survey was conducted in 1973-74 to assess career and occupational development among young Americans. The more than 100,000 individuals who participated nationally were divided into the four following age categories: nine-year-olds, thirteen-year-olds, seventeen-year-olds, and young adults ages twenty-six to thirty-five. Each group completed a group of exercises designed to assess knowledge or skills generally useful in the world of work, knowledge about jobs, self-appraisal skills, work-related experiences, and work-related values. The variables assessed were (1) region of the country and size and type of community; (2) educational level of parents and self, which included parental education, the relationship between grade and age, and the participant's own education and continuing education; and (3) sex, race, and socioeconomics, which included home environment and family income. (The results are presented in bar graphs, and the appendixes provide probability levels of differences between reporting groups within variables and estimates of percentages of blacks, whites, other races, and nations for the young adult participants.) (ELG)

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ED176019

CAREER AND OCCUPATIONAL DEVELOPMENT TECHNICAL REPORT:

SUMMARY VOLUME

Career and Occupational Development Report No. 05-COD-21

by the
National Assessment of Educational Progress

Education Commission of the States
Suite 700, 1860 Lincoln Street
Denver, Colorado 80295

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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May 1978

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The cost figure cited above represents the total amount of money expended since late 1973 on assessments in art, career and occupational development, reading, writing, social studies/citizenship, science, basic life skills, mathematics and consumerism, resulting, to date, in numerous reports, papers, articles, presentations and assessment materials, many of which are used in state and local assessment programs. A complete list of all such materials is available upon request.

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FOREWORD

When the U.S. Office of Education was chartered in 1867, one charge to its commissioners was to determine the nation's progress in education. The National Assessment of Educational Progress (NAEP) was initiated a century later to address, in a systematic way, that charge.

Each year since 1969, National Assessment has gathered information about levels of educational achievement across the country and reported its findings to the nation. NAEP surveys the educational attainments of 9-year-olds, 13-year-olds, 17-year-olds and adults (ages 26-35) in 10 learning areas: art, career and occupational development, citizenship, literature, mathematics, music, reading, science, social studies and writing. Different learning areas are assessed every year, and all areas are periodically reassessed in order to measure change in educational achievement. National Assessment has interviewed and tested more than 450,000 young Americans since 1969.

Learning area assessments evolve from a consensus process. Each assessment is the product of several years of work by a great many educators, scholars and lay persons from all over the nation. Initially, these people design objectives for each subject area, proposing general goals they feel Americans should be achieving in the course of their education. After careful reviews, these objectives are given to exercise (item) writers, whose task it is to create measurement tools appropriate to the objectives.

When the exercises have passed extensive reviews by subject-matter specialists, measurement experts and lay persons, they are administered to probability samples. The people who comprise those samples are chosen in such a way that the results of their assessment can be generalized to an entire national population. That is, on the basis of the performance of about 2,500 9-year-olds on a given exercise, we can generalize about the probable performance of all 9-year-olds in the nation.

After assessment data have been collected, scored and analyzed, National Assessment publishes reports to disseminate the results as widely as possible. Not all exercises are released for publication. Because NAEP will administer some of the same exercises again in the future to determine whether the performance level of Americans has increased or decreased, it is essential that they not be released in order to preserve the integrity of the study.

This report, Career and Occupational Technical Report: Summary Volume, summarizes the National Assessment study of career and occupational development (COD). Other reports available in the area of COD are: Adult Work Skills and Knowledge, Report No. 05-COD-01; An Assessment of Career Development:

Basic Work Skills, Report No. 05-COD-02; *The First National Assessment of Career and Occupational Development: An Overview*, Report 05-COD-00; *Career and Occupational Development Technical Report: Exercise Volume*, Report 05-COD-20.

ACKNOWLEDGMENTS

Many people have made substantial contributions to the career and occupational development (COD) assessment, from the beginning of the National Assessment of Educational Progress (NAEP) in 1964 through the completion of the reporting phase of the first assessment of COD. Unfortunately, it is not possible to acknowledge them all here, and an apology is due to those whose names have been omitted.

The preparation of the objectives and exercises for the career and occupational development assessment was done by the American Institutes for Research. These materials were reviewed by dozens of consultants, including educators and interested lay persons.

The administration of the COD assessment was conducted by the Research Triangle Institute and the Measurement Research Center (MRC). Dr. Louise Diana and Ms. Susan Worthen of MRC provided invaluable assistance in developing and refining the guidelines used in scoring the exercises.

The preparation of this report was a collaborative effort of the National Assessment staff. The analyses and the design for the report were planned by Donald Phillips. William Ankeny and Charlotte Ramlow, Data Processing Department, managed the data files and provided the programming support; Ava Powell, Development, Analysis and Research Department, helped assemble and check the accuracy of all materials; Kathy Peterson, Development, Analysis and Research Department, typed drafts and revisions of text and tables; Marci Reser and Jessica Grant, Publications Department, assisted in the production of the report.

Special thanks must also go to Dr. J. Stanley Ahmann, who directed the National Assessment program throughout the period in which this information was gathered.

Roy H. Forbes
Director

CHAPTER 1

INTRODUCTION

During the 1973-74 school year, the National Assessment of Educational Progress completed its first assessment of career and occupational development (COD).[1] It is one of the first attempts ever to comprehensively assess young Americans' knowledge of career and occupational development.

In this assessment, 9-year-olds, 13-year-olds, 17-year-olds[2] and young adults (age levels that mark the end of primary, intermediate, secondary and most postsecondary education) were asked a variety of questions designed to measure achievement of five broad COD objectives. These objectives were: (1) prepare for making career decisions, (2) improve career and occupational capabilities, (3) possess skills that are generally useful in the world of work, (4) practice effective work habits and (5) have positive attitudes toward work.

This report focuses upon the average results of several collections of exercises. These are organized in the following way:

I. Knowledge or skill generally useful in the world of work
    A. Written communication skills
    B. Computation and measurement
    C. Manual/perceptual skills
    D. Graphic and reference materials

II. Knowledge about jobs
    A. General job knowledge
    B. Specific job knowledge

III. Self-appraisal skills

IV. Work-related experiences

V. Work-related values

---

[1] The assessment schedule varied for each age level. The administration dates were: 9-year-olds/Jan.-Feb. 1974, 13-year-olds/Oct.-Dec. 1973, 17-year-olds/March-April 1974, adults/April-August 1974.

[2] Both 17-year-olds attending school and 17-year-olds not attending school were assessed.

This scheme of exercise groups and subgroups placed exercises with similar content together under headings intended to give the reader a general idea of the common content theme for each group or subgroup. These exercise groups will often be referred to as themes in the remainder of this report.

Table 1 shows the number of exercise values at each age that are in each of the above themes. Note that the "knowledge or skill generally useful in the world of work" theme is the sum of the exercises that make up the "written communication skills," "computation and measurement," "manual/perceptual skills" and "graphic and reference material" themes. Similarly, the "job knowledge" theme is made up of the exercises in the "general" and "specific job knowledge" themes. For 9-year-olds, the job knowledge theme would be exactly the same as specific job knowledge, so the job knowledge theme is not defined. For several themes, there is at least one age at which data are not provided in this report because of a small number of exercises and resulting poor coverage of the theme for that age or ages.

TABLE 1. Number of Exercises in Each Theme at Each Age

	Age			
	9	13	17	Adult
Written communication skills	6	16	20	20
Computation and measurement	19	30	28	27
Manual/perceptual skills	11	16	11	11
Graphic and reference materials	15	24	21	20
Knowledge or skill generally useful in the world of work	41*	75*	71*	70*
General job knowledge	0	16	22	21
Specific job knowledge	14	46	53	48
Job knowledge	--†	62	75	69
Self-appraisal skills	8	15	10	13
Work-related experiences	11	16	5	8
Work-related values	7	18	24	21

*These numbers are not the sum of the four numbers above them, as might be expected, because a number of exercise parts are included in more than one of the themes. Each of these is entered only once in the "knowledge or skill generally useful in the world of work" theme.
†Not defined for age 9.

Sampling

Two exercises were given to a national probability sample of 9-year-olds, 13-year-olds, 17-year-olds (including high school dropouts and early graduates) and adults (aged 26-35 years).[3] Within the four age levels, National Assessment can report data about a limited number of subpopulations. Although the sample included respondents from all 50 states and the District of Columbia, it was not of sufficient size to enable comparisons of the data between states, school districts, schools, teachers, etc.

The four age levels selected for participation were identified as follows:

Age Level	
9	Born in 1964
13	Born in 1960
17	Born between October 1, 1956, and September 30, 1957
Adults	Born between January 1, 1938, and December 31, 1947

The sample design employed by National Assessment was stratified by geographic region, state, size of community and socioeconomic level. The sample was drawn at three stages. The first-stage sampling units consisted of counties or groups of contiguous counties and was constructed using U.S. Bureau of the Census data on the numbers of persons living in those counties.

For the in-school assessment, a stratified random sample of primary sampling units (PSUs) was drawn. Lists were made of the schools in each selected unit. At the second stage, a sample of schools was selected within each PSU. Finally, within each selected school National Assessment drew a random sample of students and assigned those students to assessment booklets. Of course, all student listings were destroyed to protect the anonymity of the respondents. National Assessment has no records of the names of the students who took part in the assessment. The out-of-school sample design was similar to the in-school design. First, primary sampling units were drawn. Then, within each PSU a sample of small-area segments was obtained. Specially trained administrators located assessment participants within the area segments by visiting each housing unit and determining if any individual of the appropriate age lived there.

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[3] For more detailed documentation, see J.R. Chromy et al., The National Assessment Approach to Sampling (Denver, Colo.: National Assessment of Educational Progress, 1974). For an introductory treatment aimed at state and local assessment problems, see R.M. Jaeger, A Primer on Sampling for Statewide Assessment (Princeton, N.J.: Educational Testing Service, Center for Statewide Educational Assessment, 1973).

More than 100,000 persons were included in the sample for the career and occupational development assessment. In general, each respondent was asked to take one of the several assessment booklets for the age. Out-of-school 17-year-olds and adults were asked to complete four and three booklets, respectively. Table 2 shows the number of respondents for each assessment booklet for each age. There were 11 booklets for 9-year-olds, 15 for 13-year-olds and 3 for adults. At age 17, there were 17 booklets administered to in-school respondents; however, booklets 15 and 16 did not contain any career and occupational development exercises. Booklets 13 and 14 were not given to out-of-school 17-year-olds because they each required the showing of a 16 mm. sound film. National Assessment did not have the resources to administer these in individual situations.

TABLE 2. Number of Persons at Each Age Responding to Career and Occupational Development Assessment Booklets

Booklet Number	Age 9	Age 13	Age 17 In-School	Age 17 Out-of-School	Age 17--All	Adult
1	2,614	2,556	2,301	307	2,608	2,119
2	2,660	2,607	2,309	306	2,615	2,115
3	2,611	2,547	2,324	299	2,623	2,138
4	2,628	2,554	2,265	305	2,570	
5	2,644	2,607	2,285	302	2,587	
6	2,576	2,622	2,276	301	2,577	
7	2,573	2,633	2,272	301	2,573	
8	2,585	2,575	2,288	303	2,591	
9	2,575	2,519	2,284	302	2,586	
10	2,586	2,621	2,283	306	2,589	
11	2,229	2,555	2,294	307	2,601	
12	--	2,594	2,277	303	2,580	
13	--	2,531	2,296	--	2,296	
14	--	2,528	2,302	--	2,302	
15	--	2,240	--	--	--	
16	--	--	--	--	--	
17	--	--	2,155	305	2,460	
TOTAL	28,281	38,289	34,211	1,008*	35,219*	2,187**

**Not the sum of the column because most out-of-school 17-year-olds took more than one booklet.*
***Most out-of-school 17-year-olds and adults took more than one booklet.*

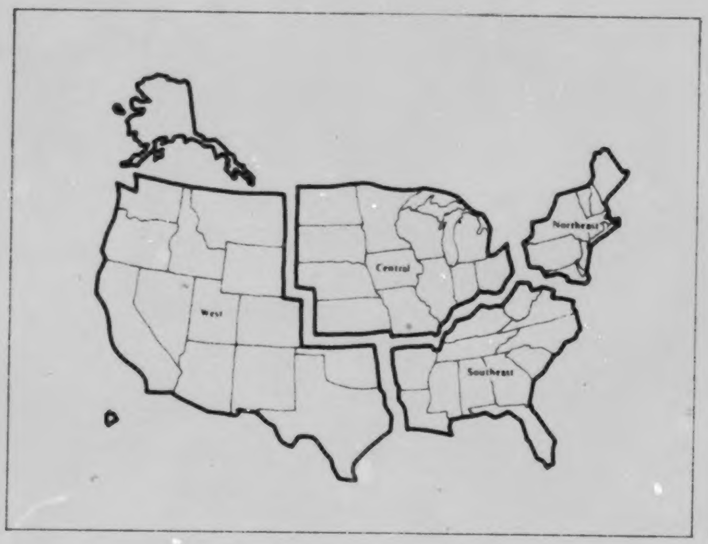
At each age level, National Assessment reports results for respondents categorized according to the variables region of the country, sex, race, size and type of community, highest level of parental education and home environment. For the respondents in school, results are also reported by school grade. For

For young adults, results are also reported by respondents' education level, family income and level of continuing education. These categories are defined as follows:

Region

Respondents lived in four regions of the country -- Southeast, Northeast, Central and West. (See Exhibit 1).

EXHIBIT 1. National Assessment
Geographic Regions



Sex

Results are reported for males and females for each age group.

Race

Results are reported for blacks and whites.

Size and Type of Community

The groups within this variable are defined by the size of the community in which a respondent lives and an occupational profile of the area. Population sizes are based on data from the census of 1970.

Extreme rural. These are areas where a high proportion of the residents are farmers or farm workers. At least some of the area is open country or contains towns of less than 2,500 population; no towns in the area are greater than 100,000 or are suburbs of medium or large cities.

Low metro (low-socioeconomic or impoverished urban communities). In these areas, a high proportion of the residents are on welfare or are not regularly employed. These areas are within cities or residential areas of big cities with populations greater than 200,000.

High metro (high-socioeconomic or affluent urban and suburban communities). A high proportion of the residents in these areas are professional or managerial. These areas are found in big cities or residential areas of cities with populations greater than 200,000.

Main big city. Respondents in this group live in big cities greater than 200,000 that are not included in either the low-metro or high-metro groups.

Urban fringe. These respondents live in the urbanized areas of big cities greater than 200,000 that are not included in either the low-metro or high-metro groups.

Medium city. These respondents live in cities with populations between 25,000 and 200,000 that are not urbanized areas of big cities.

Small places. Respondents in this group live in open country or in places with populations of less than 25,000, excluding those in the extreme-rural group.

Parental Education

These groups are classified by the highest level of education attained by either parent, from no high school through post high school. The respondent reported how much school each parent completed; the highest level attained by either parent is reported.

No high school. Neither parent completed schooling beyond the eighth grade.

Some high school. At least one parent completed some schooling in grades 9 through 12; neither completed high school.

Graduated high school. At least one parent graduated from high school; neither participated in post high school education.

Post high school. At least one parent had some education beyond high school.

Unknown. These respondents indicated that they did not know the level of education of either parent.

Home Environment

Respondents at all ages were asked the following:

1. Does your family get a newspaper regularly?
2. Does your family get any magazines regularly?
3. Are there more than 25 books in your home?
4. Is there an encyclopedia in your home?

The number of these things in the respondent's home are reported as follows:

1. Less than three home-environment items.
2. Three home-environment items.
3. Four home-environment items.

School Grade

The school grades for 9-year-olds, 13-year-olds and in-school 17-year-olds are reported. At each age, grade is reported for levels one through four; the definitions of these levels are:

Grade Level	Age 9	Age 13	Age 17
1	Below 3rd grade	Below 7th grade	Below 10th grade
2	Grade 3	Grade 7	Grade 10
3	Grade 4	Grade 8	Grade 11
4	Above 4th grade	Above 8th grade	Grade 12

Own Education

Young adults were asked a series of questions about their own education. Their answers were combined in the following categories:

1. Ninth grade or less.
2. Some high school. The respondent did not graduate from high school.
3. Graduated high school, no vocational school. These respondents did not attend college.
4. Graduated high school, attended vocational school. These respondents also did not attend college.

5. One year or less of college.

6. Two-four years of college. The respondent did not graduate from a four-year college.

7. Graduated from college.

8. Attended graduate school. The respondent may or may not have earned a graduate or professional degree.

Continuing Education

Adults were asked if they had taken correspondence courses, on the job training or adult education courses. Those who had such education were also asked whether they felt the continuing education had been helpful to them on their jobs. Using the results of these questions, the adults were categorized as follows:

1. No continuing education.
2. Continuing education (not job related).
3. Job-related continuing education.

Family Income

Adults were asked to indicate the range of their family income. The levels reported are:

1. Under $5,000.
2. $5,000-10,000.
3. $10,000-15,000.
4. More than $15,000.

Summarizing Performance

This report focuses on the mean, or arithmetic average, delta-p scores for the various subpopulation reporting groups and the standard errors of these mean delta-p scores. These are displayed for each set of exercises appropriate for the given age. Mean percentages are not reported here since they are a function of average exercise difficulty, which are, to a large extent, arbitrary and may be misleading.

Estimates of percents, differences of percents and averages of percents are subject to two general types of errors: sampling and nonsampling. Sampling errors occur because responses are obtained from a sample, not the entire population. Nonsampling errors may be attributed to many sources, e.g., the way the exercises are sequenced, the variability among exercise administrators even after all have received identical training, the willingness of respondents to provide honest responses or the variability among scorers responsible for categorizing responses to open-ended exercises. The accuracy of a survey result is determined by the effects of sampling and nonsampling errors.

The sampling precision of an estimated mean percentage or mean delta-p is measured by its standard error. Conceptually, it is an estimate of the standard deviation of the distribution of means obtained from all possible samples using the given sample design.

Procedures for estimating p-values (proportions) and estimates of their standard errors are heavily dependent on the sample design. To estimate the percentages of individuals in the population who possessed various knowledges, understandings, skills and attitudes, National Assessment weighted all response data in accordance with the probability of selection.

National Assessment calculated the following results:

1. P-Value. An estimate of the percentage of persons in each of the populations who gave a certain response to a specific exercise. For example, the estimated percentage of 9-year-olds who answer a given exercise acceptably is defined as the weighted number of acceptable responses divided by the weighted number of responses for all 9-year-olds. Percentages for each reporting group were computed in the same manner using only the weighted responses for the people in that group.

   Mean percentages for exercise subgroups or themes are calculated by averaging the percentages for each exercise in the theme. Essentially this meant adding together the percentages for each of the exercises and dividing the sum by the total number of exercises in the theme. The calculations used the weights assigned to each person responding to the items. Mean percentages for each reporting group were computed in the same manner using only the weighted responses for the respondents in that group.

2. Delta-P. An estimate of the differences between the performance of a subpopulation (reporting group) and the performance of the total age population. A delta-p is the difference between the estimated percentage of a group (for example, the Western region) that provided a particular response to an exercise and the corresponding national percentage:

   Western % - National % = Western Delta-P.

   If, on a given exercise, a group's performance is lower than the national percentage, the difference between the two percentages is expressed as a negative number; if a group's percentage of success is higher than the national percentage, the group's difference in performance is a positive number. For example, if on a given exercise 68% of the 13-year-olds in the West gave an acceptable response but 74% of the national sample did so, then the Western group delta-p for 13-year-olds would be -6 percentage points.

The mean delta-p for a reporting group on a theme or collection of exercises is a weighted average of the delta-p for each exercise in the theme. Essentially this means adding the delta-p's for each of the exercises and dividing by the total number of exercises in the theme. The process used the weights assigned to individuals.

3. *Standard error*. The National Assessment sample design is a complex, stratified, multistage design that does not provide for direct, unbiased, simple and inexpensive computation of sampling errors. A reasonably good approximation to standard-error estimates of p-values may be obtained by applying the jackknife procedure[4] to first-stage sampling units within strata, using the method of successive differences and pooling across strata.

Let

$\hat{Y}_{ijhk}$ = Sum of weights for respondents in subgroup i (e.g., Northeast, males or low metro) who chose response category j (e.g., correct foil) in PSU k of stratum h (h = first three digits of PSU number, k = last digit of PSU number); and

$\hat{M}_{i.hk}$ = Sum of weights for respondents in subgroup i of PSU k of stratum h. Note that $M_{i.hk} = \sum_{j} \hat{Y}_{ijhk}$.

Then

$\hat{Y}_{ij..} = \sum_{h=1}^{H} \sum_{k=1}^{n_h} \hat{Y}_{ijhk}$, the estimated number of respondents in subgroup i who chose response category j;

$\hat{M}_{i...} = \sum_{h=1}^{H} \sum_{k=1}^{n_h} \hat{M}_{i.hk}$, the estimated number of respondents in subgroup i;

and

---

[4] R.G. Miller Jr., "A Trustworthy Jackknife," *Annals of Mathematical Statistics*, No. 35 (1964), pp. 1594-1705; R.G. Miller Jr., "Jackknifing Variances," *Annals of Mathematical Statistics*, No. 39 (1968), pp. 567-582; F. Mosteller and J.W. Tukey, "Data Analysis Including Statistics," in *Handbook of Social Psychology* (2nd ed.), eds. E. Aronson and G. Lindzey (Reading, Mass: Addison-Wesley, 1968).

$\hat{P}_{ij} = \frac{\hat{Y}_{ij..}}{\hat{M}_{i...}}$, the estimated proportion of respondents in subgroup i who chose response category j.

In the above formulas, H = the number of strata and n_h = the number of PSUs in stratum h. The jackknifed estimate of the standard error of $\hat{P}_{ij}$ is

$$\hat{s.e.}_{\hat{p}_{ij}} = \left[1/8 \sum_{h=1}^{H} \sum_{k=1}^{n_h} \left(\frac{\hat{Y}_{ij..} - \hat{Y}_{ijhk} + \hat{Y}_{ijh,k+1}}{\hat{M}_{i...} - \hat{M}_{i.hk} + \hat{M}_{i.h,k+1}} - \frac{\hat{Y}_{ij..} + \hat{Y}_{ijhk} - \hat{Y}_{ijh,k+1}}{\hat{M}_{i...} + \hat{M}_{i.hk} - \hat{M}_{i.h,k+1}} \right)^2 \right]^{1/2}$$

where, for $k = n_h$

$$\hat{Y}_{ijh,k+1} \equiv \hat{Y}_{ijh,1}$$

and

$$\hat{M}_{i.h,k+1} \equiv \hat{M}_{i.h,1}.$$

Multiplying $\hat{p}_{ij}$ by 100 yields percentages, called p-values in National Assessment terminology. Multiplying $\hat{s.e.}_{\hat{p}_{ij}}$ by 100 yields the estimated standard errors of those p-values.

In general, the jackknifed standard errors of NAEP data will be larger than the simple random sampling formula $(pq/n)^{1/2}$, reflecting, largely, the loss of precision due to cluster sampling of schools and students.

The project has adopted the convention that if an obtained delta-p is at least twice as large as the estimate of its standard error, then the difference is statistically significant at the 5% level. These differences are indicated in the tables by asterisks (*).

Data Reporting

The data displayed in bar graphs in the following chapters are mean delta-p's for age, reporting group and appropriate theme. On these graphs, the heavy black bar is the mean delta-p. Centered on the mean delta-p is a narrow white bar whose length is four times the standard error of the respective mean delta-p. Hence, the upper end of the white bar is the mean delta-p plus two standard errors; the lower end is the mean delta-p minus two standard errors. At the bottom of the graphs, both the delta-p values and their respective standard errors are displayed.

The white confidence intervals described above give 95% confidence intervals for each delta-p. Using a 5% α-level for a particular reporting group, one can check for significant differences of the group from the nation. Note, if multiple comparisons are made using the same variable, each comparison has an α of .05. It should also be noted that the observations from different themes are not statistically independent since the observations are on the same sets of individuals.

Often one is interested in whether the differences between different levels within a variable are different from each other, such as: Is Northeastern performance different from Southeastern performance? The standard error of the difference between two mean percentages is related to the standard errors of the two means and their covariance. If we let SE_1 and SE_2 be the standard errors of the mean percentages for groups 1 and 2, respectively, and $COV_{1,2}$ be the covariance of the means for group 1 and 2, then the standard error of the difference between the means (mean group_1 - mean group_2) SE_{1-2} is expressed by the following:

$$SE_{1-2} = \sqrt{(SE_1)^2 + (SE_2)^2 - 2\ COV_{1,2}}.$$

If $COV_{1,2}$ is zero, then the term can be ignored. In general, the National Assessment sampling design is such that the term $COV_{1,2}$ will not be negative. Hence if the term 2 $COV_{1,2}$ is dropped from the expression for SE_{1-2}, then $\sqrt{(SE_1)^2 + (SE_2)^2}$ is at worst an overestimate of the real standard error of the difference of means in question.

These conservative estimates of standard errors of differences between group mean percentages are used to compute the probability of obtaining a difference between means as large as the one observed in our sample if no difference exists. These probabilities are included in this report as Appendix A.

CHAPTER 2

REGIONAL AND COMMUNITY VARIABLES

The reporting variables region and size and type of community were defined in Chapter 1. This chapter includes graphs of the mean difference between subclass performance and national performance. The mean for each exercise theme is reported separately. Age 17 data is for all 17-year-olds (e.g., both in- and out-of-school 17-year-olds combined).

Region

The Southeastern region's performance was significantly below the national performance on every exercise theme at every age, with three exceptions. Age 13 Southeastern average performances on Self-Appraisal Skills and Work-Related Experiences exercises were not significantly different from the national average. Young adult Southeastern average performance on Self-Appraisal Skill exercises was not significantly different from the national average.

The Western regional performance significantly differed from the performance of the nation on only two exercise themes. Age 17 Western average performance was significantly below the national average performance on Written Communication Skills exercises. Young adult Western average performance was significantly above the average national performance on Self-Appraisal Skills exercises.

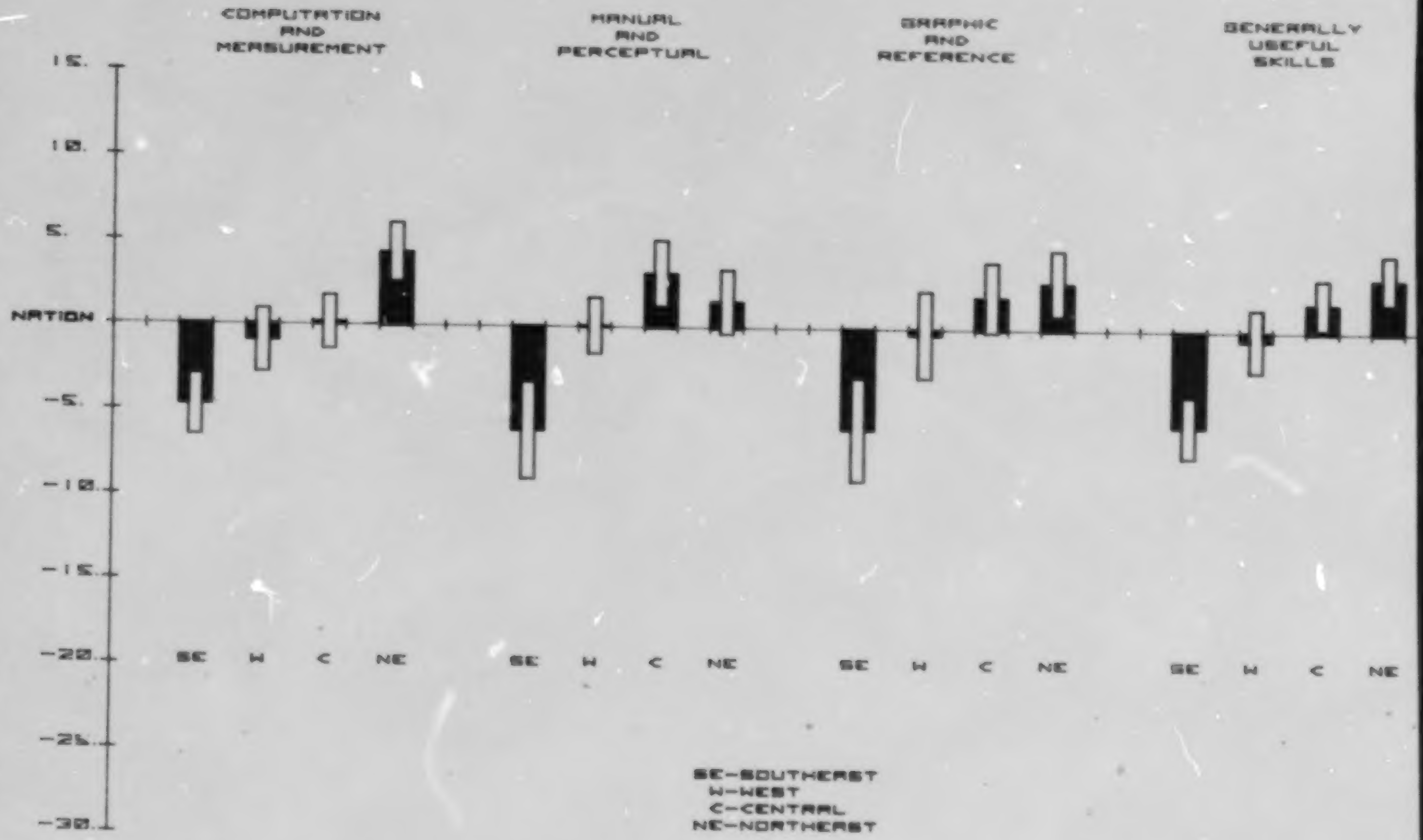
The average performance of 9-year-olds in the Central region did not differ significantly from that of the nation on the Computation and Measurement and Graphic and Reference exercises. Their average performance was significantly above the average national performance on the remaining exercise themes. The 13-year-old Central region's average performance on the exercise themes dealing with Written Communication Skills, Specific Job Knowledge, Job Knowledge and Self-Appraisal Skills was not significantly different from the average national performance. Their performance was significantly above that of the nation on the remaining exercise themes. The Central region 17-year-olds were significantly above the nation in average performance on all of the exercise themes. Young adults in the Central region were not significantly above the nation in average performance only on exercise themes dealing with Manual and Perceptual Skills and Self-Appraisal Skills.

The average performance of the Northeastern region's 9-year-olds was significantly above the average national performance for the Computation and Measurement, Graphic and Reference and Generally Useful Skills exercise themes.

Their average performance was not significantly different from the average performance of the nation on the remaining exercise themes. Northeastern 13-year-olds' average performance was below the national average performance on Work-Related Experiences exercises. Their performance was not significantly different from the nation on the Graphic and Reference, Self-Appraisal Skills and Work-Related Values exercise themes. On the remaining exercise theme, 13-year-olds in the Northeastern region were significantly higher, in average performance, than was the nation as a whole. Northeastern 17-year-olds' average performance was significantly lower than the national average performance on Self-Appraisal Skills exercises. Their average performance was significantly higher than the national average on the Computation and Measurement, Graphic and Reference, Generally Useful Skills and Specific Job Knowledge exercise themes. The Northeastern 17-year-olds' average performance was not significantly different from the average national performance on the remaining exercise themes. The average performance of the Northeastern young adults was significantly higher than the average performance of the nation on the Specific Job Knowledge exercise themes. The Northeastern young adult average performance did not differ significantly from that of the nation on any other exercise themes.

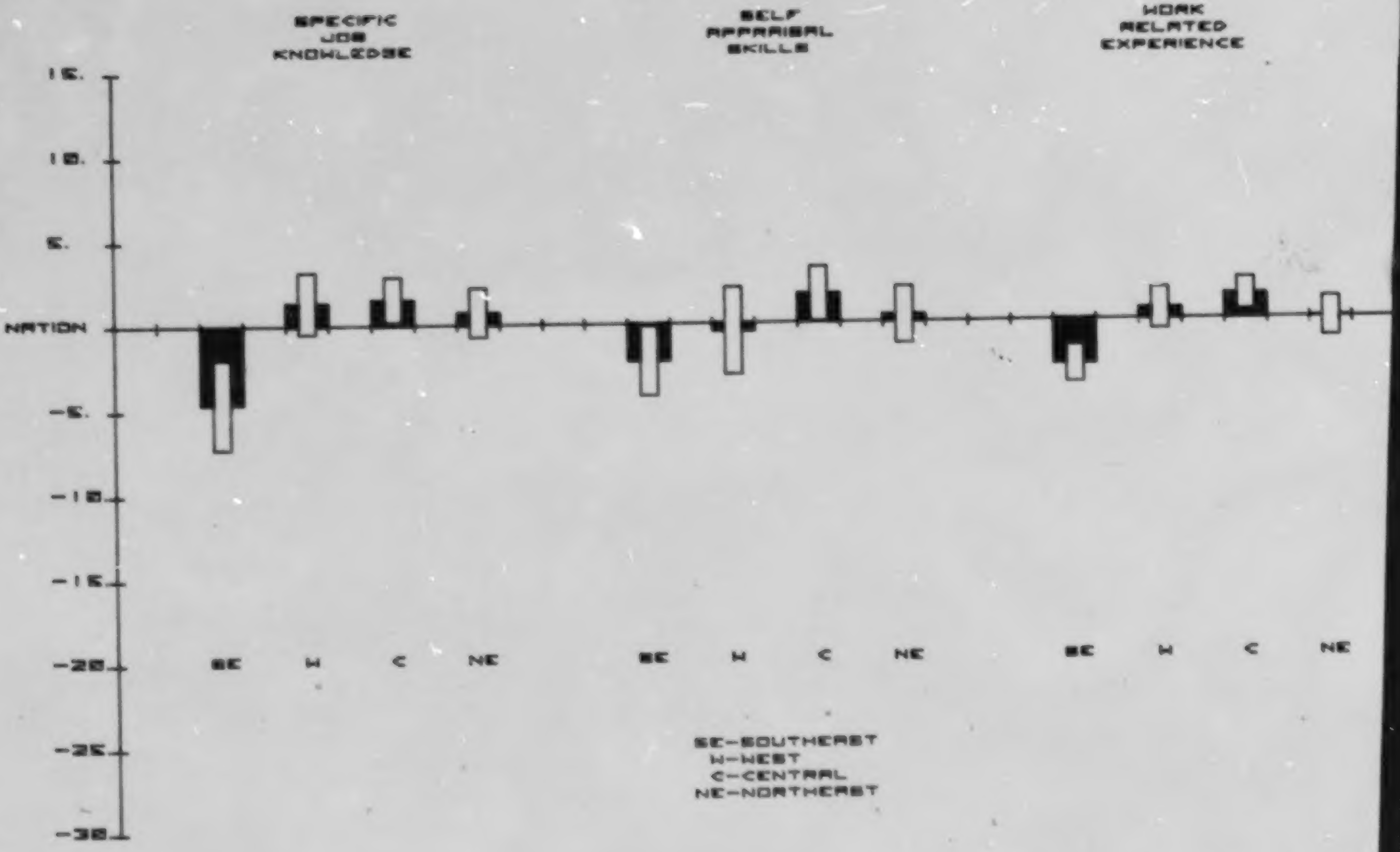
Figures 1 through 4 show average regional performance differences from the national average performances for the various exercise themes and the four ages. Observed differences between average regional performances are also reflected in these figures for the exercise themes and ages. Estimates of the pair-wise probabilities of these observed pair-wise group differences, under the assumption of no pair-wise group differences, are given in Appendix A.

FIGURE 1. Delta-P Values for Region, Age 9



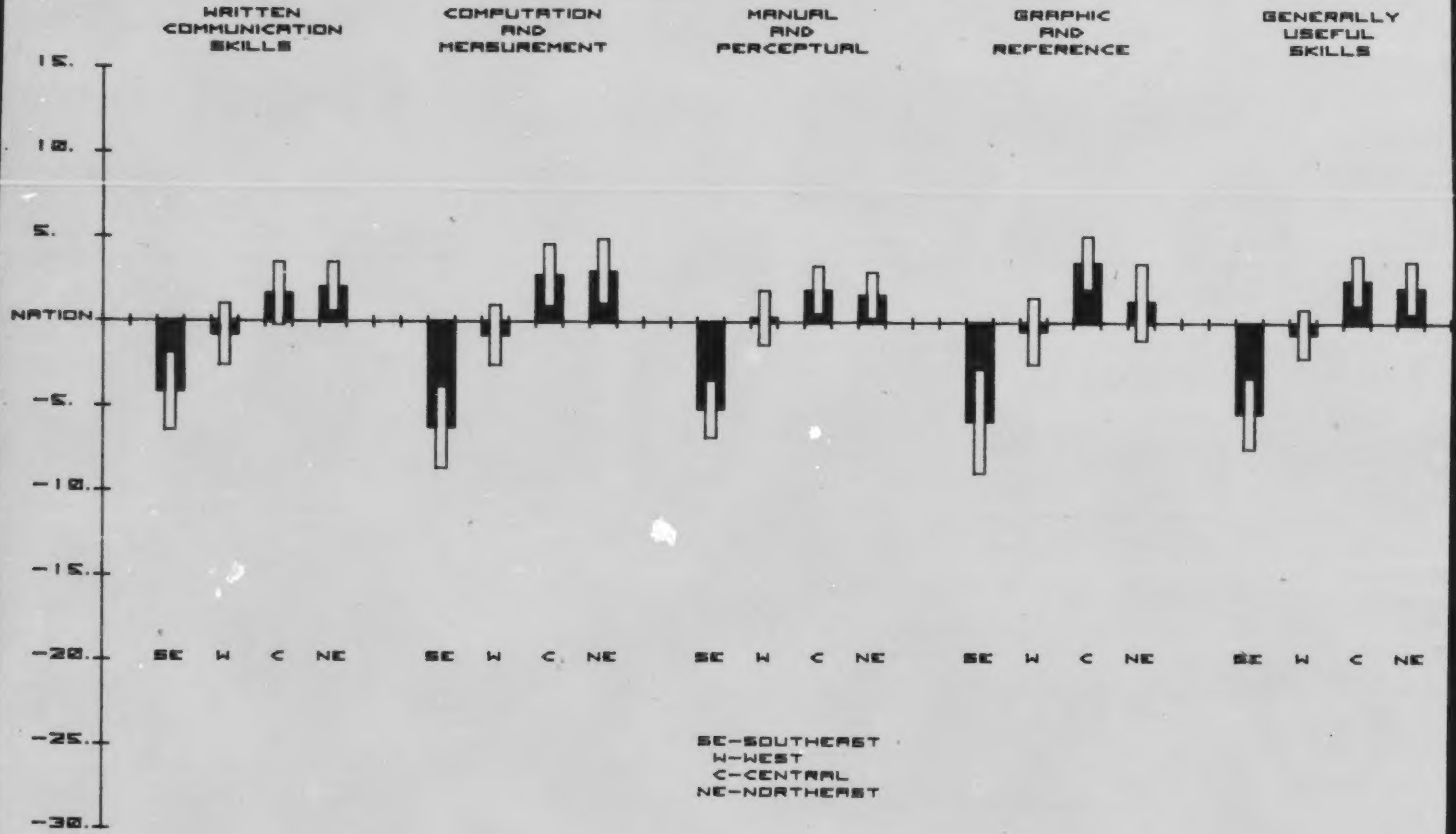
	SE	W	C	NE	SE	W	C	NE	SE	W	C	NE	SE	W	C	NE
DIFFERENCE FROM NATION	-4.7	-0.9	0.2	4.3	-6.1	0.1	3.2	1.5	-6.0	-0.3	1.8	2.8	-5.8	-0.5	1.7	3.3
STANDARD ERROR	0.9	0.9	0.8	0.9	1.4	0.8	1.0	0.9	1.5	1.3	1.0	1.0	0.9	0.8	0.7	0.7

FIGURE 1 -- *Continued*



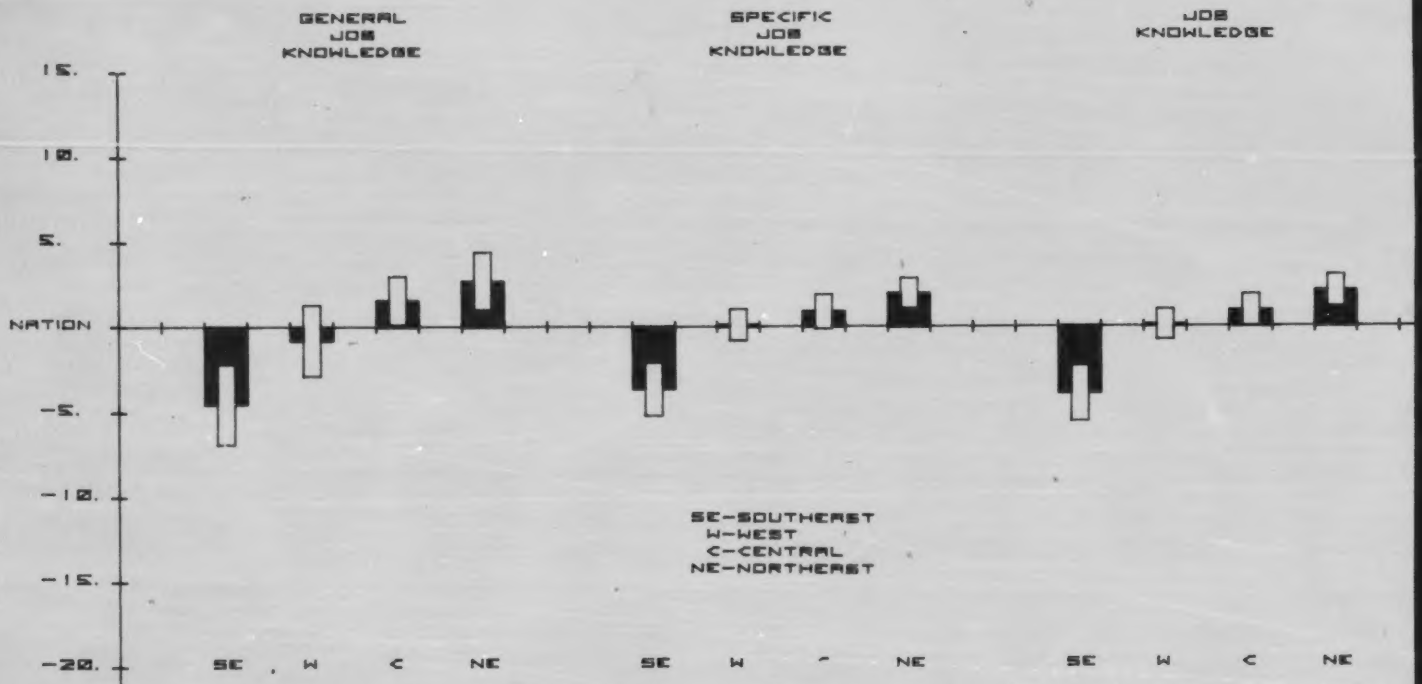
	SE	W	C	NE	SE	W	C	NE	SE	W	C	NE
DIFFERENCE FROM NATION	-4.6	1.4	1.5	0.7	-2.2	-0.4	1.7	0.4	-2.6	0.6	1.4	0.1
STANDARD ERROR	1.3	0.9	0.7	0.7	1.0	1.3	0.8	0.9	0.5	0.8	0.5	0.8

FIGURE 2. Delta-P Values for Region, Age 13



	SE	W	C	NE	SE	W	C	NE	SE	W	C	NE	SE	W	C	NE	SE	W	C	NE
DIFFERENCE FROM NATION	-4.1	-0.8	1.7	2.0	-6.2	-0.8	2.7	3.0	-5.1	0.3	1.8	1.6	-5.8	-0.5	3.6	1.3	-5.3	-0.6	2.5	2.1
STANDARD ERROR	1.1	0.8	0.9	0.7	1.2	0.9	0.8	1.0	0.9	0.8	0.7	0.7	1.5	1.0	0.8	1.1	1.1	0.7	0.7	0.8

FIGURE 2. -- *Continued*



	SE	W	C	NE	SE	W	C	NE	SE	W	C	NE
DIFFERENCE FROM NATION	-4.5	-0.8	1.6	2.7	-3.6	0.1	0.9	2.0	-3.8	0.1	0.9	2.1
STANDARD ERROR	1.2	1.0	0.7	0.9	0.8	0.5	0.5	0.4	0.8	0.4	0.5	0.5

FIGURE 2 -- *Continued*

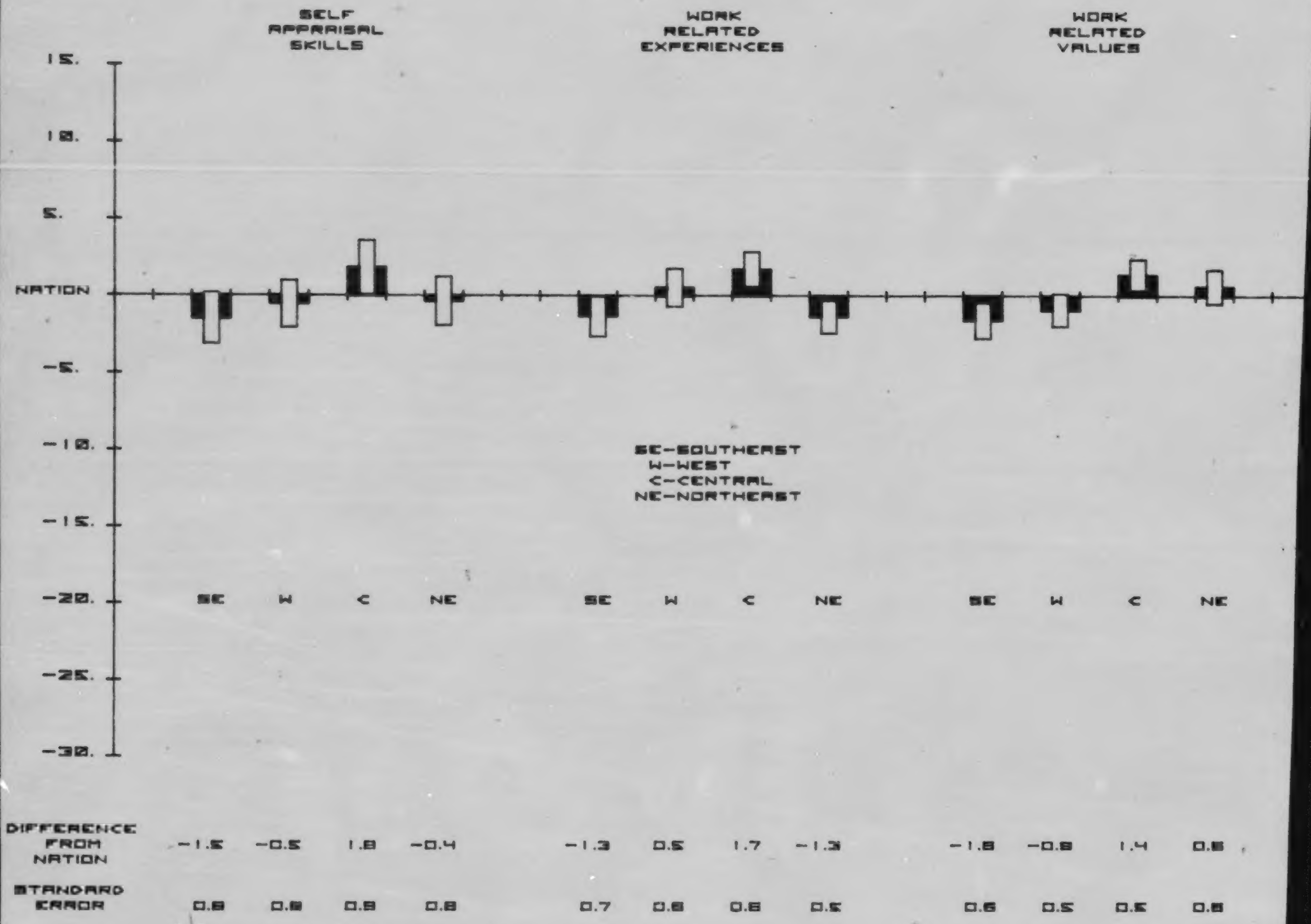


FIGURE 3. Delta-P Values for Region, All Age 17

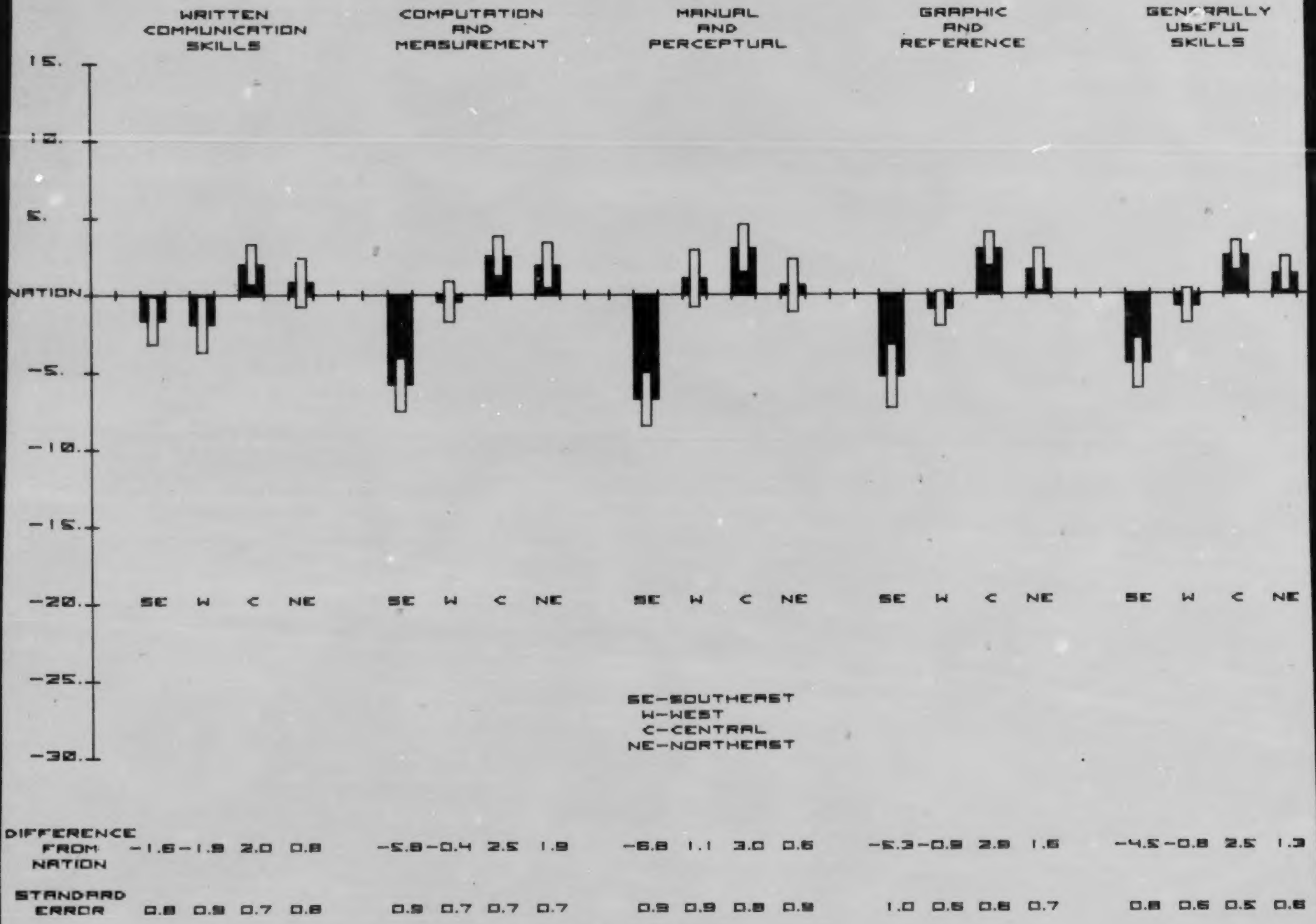
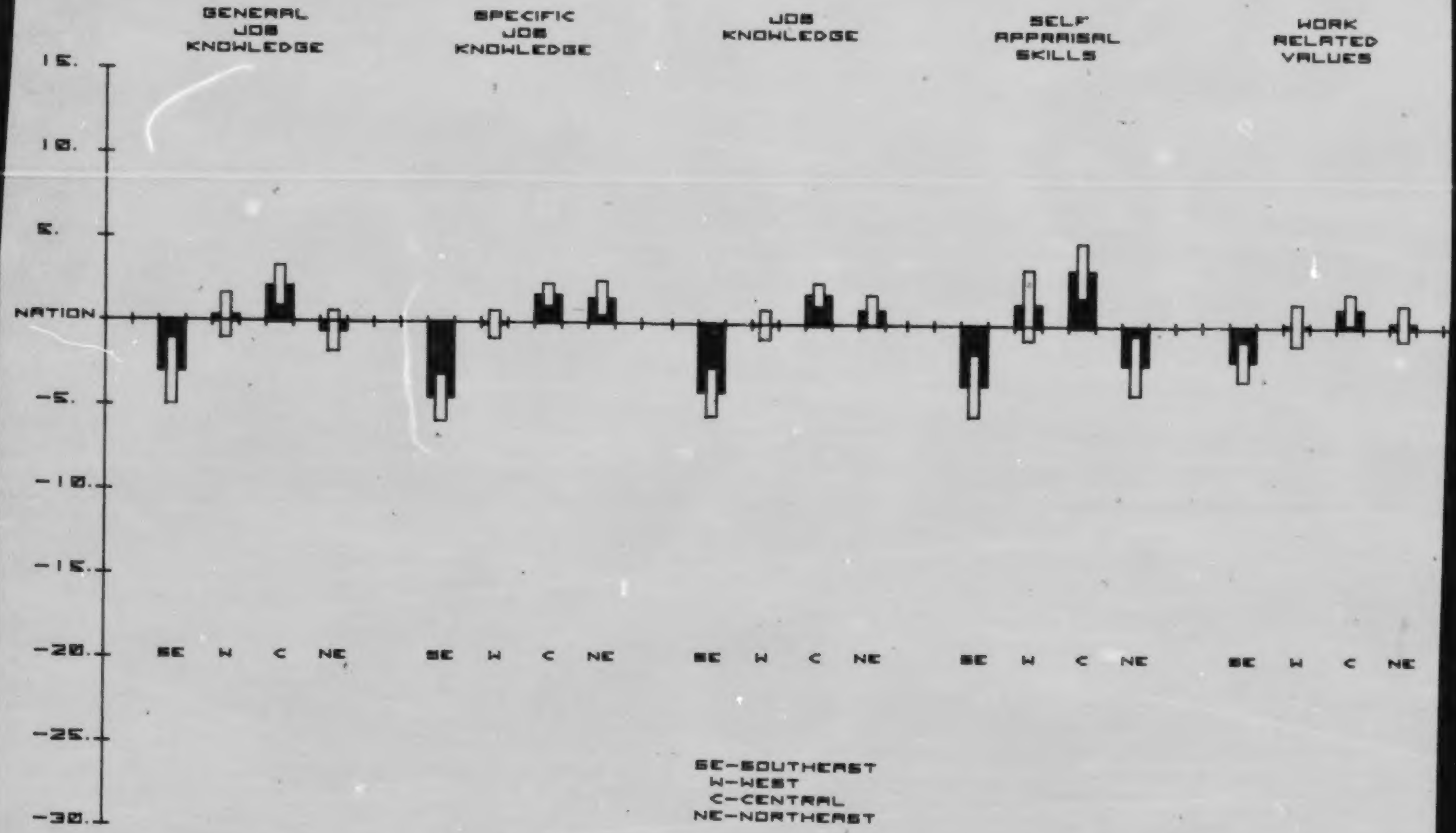


FIGURE 3 -- *Continued*



	SE	W	C	NE	SE	W	C	NE	SE	W	C	NE	SE	W	C	NE	SE	W	C	NE
DIFFERENCE FROM NATION	-3.0	0.4	2.1	-0.5	-4.5	-0.1	1.8	1.5	-4.0	0.0	1.8	0.8	-3.5	1.3	3.3	-2.2	-2.0	0.2	1.1	0.3
STANDARD ERROR	1.0	0.7	0.8	0.8	0.7	0.4	0.3	0.5	0.7	0.4	0.3	0.5	0.8	1.1	0.8	0.8	0.6	0.6	0.5	0.5

FIGURE 4. Delta-P Values for Region, Adults

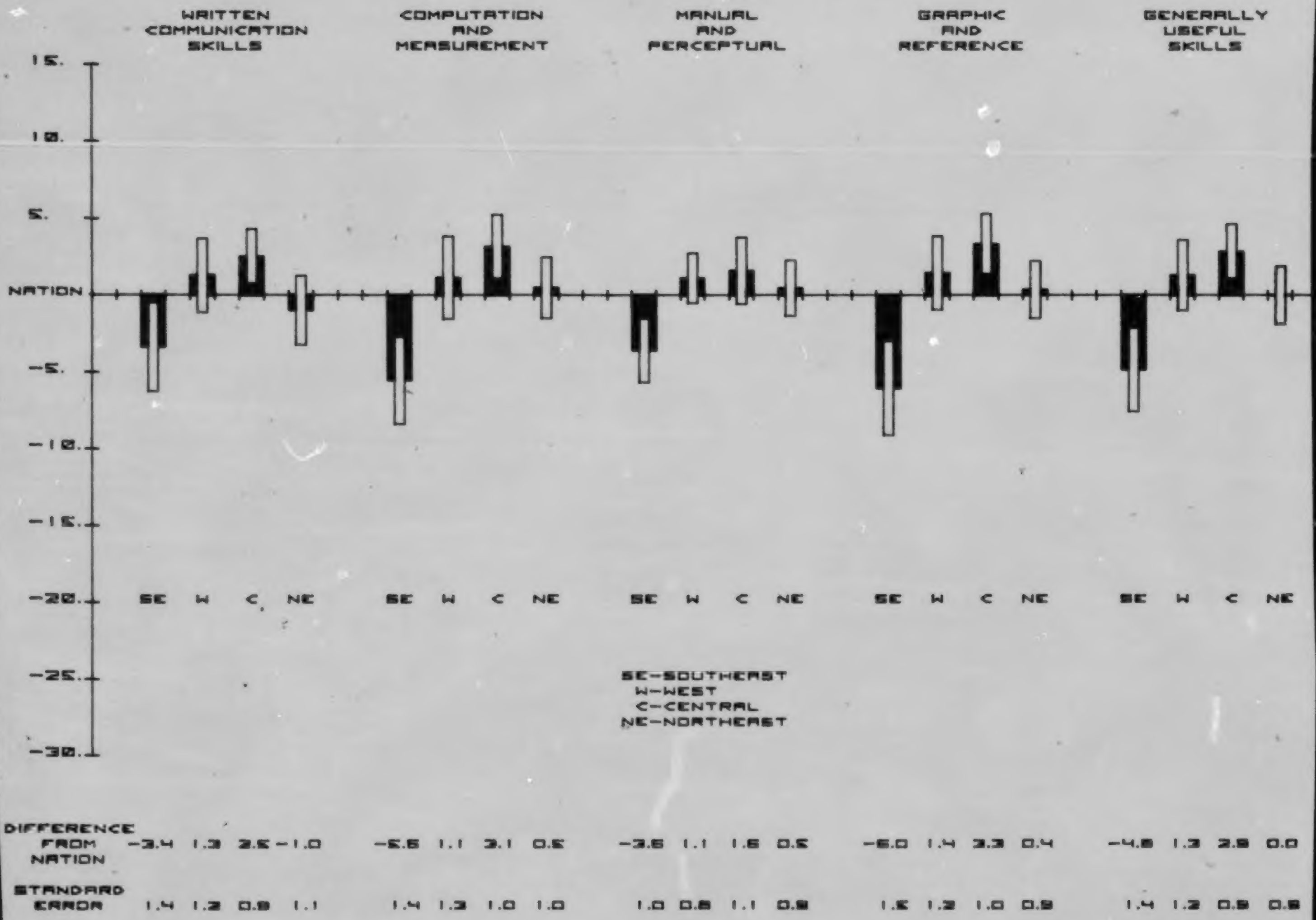
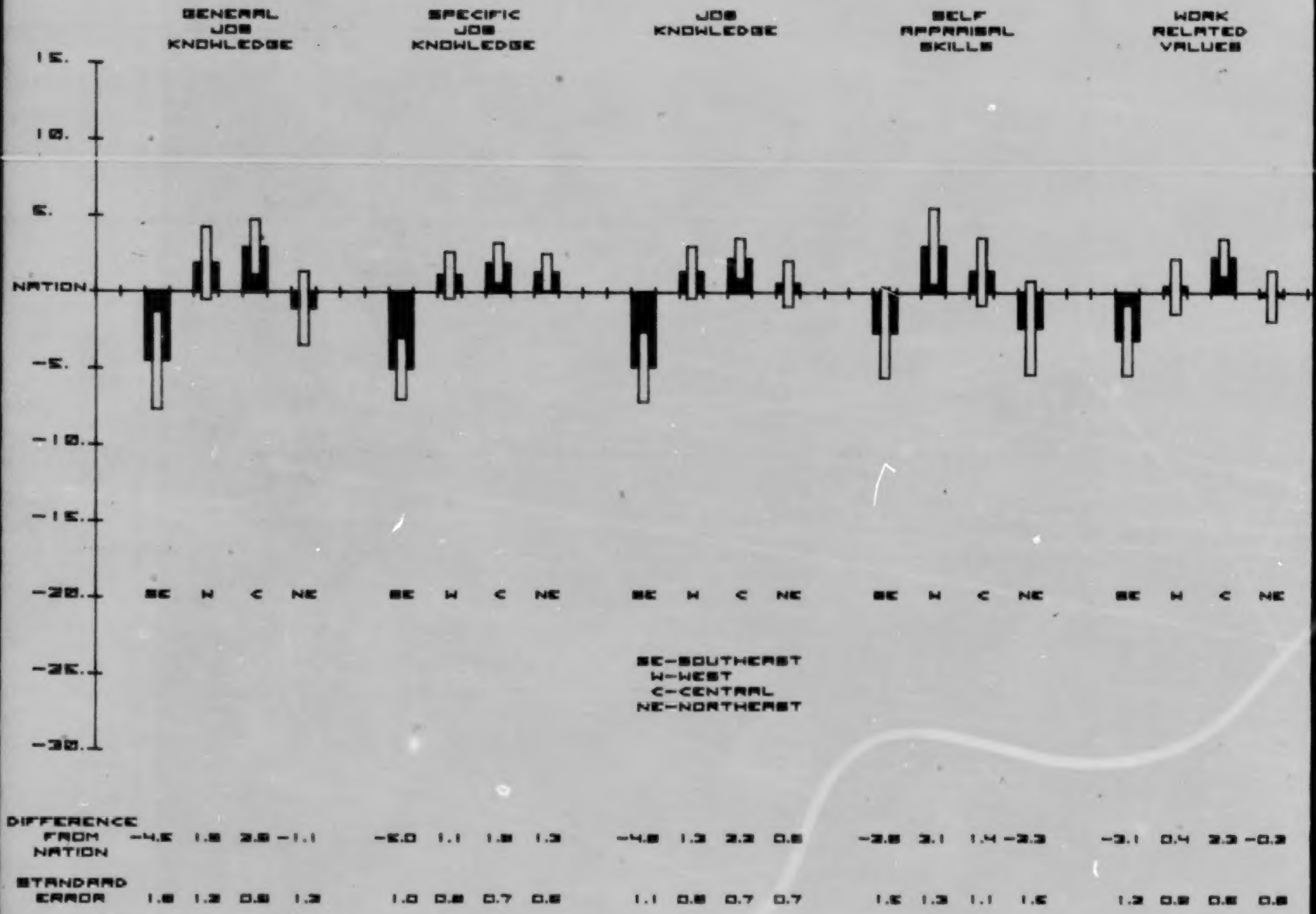


FIGURE 4 -- *Continued*



Size and Type of Community

Only the low-metro and high-metro groups were consistently significantly different from the nation, in average performance, across exercise themes and ages. The low-metro group's average performance was significantly below that of the nation for all exercise themes and all ages except for 13-year-olds on Self-Appraisal Skills. On this exercise theme, the Southeastern 13 year-olds' performance was not significantly different from the nation. With four exceptions, the high-metro group's average performance was significantly above the average national performance on all exercise themes at all ages. The exceptions were 13-year-olds on exercise themes Self-Appraisal Skills and Work-Related Experiences, and 17-year-olds on exercise themes Written Communication Skills and Self-Appraisal Skills. The high-metro average performance on these four cases was not significantly different from that of the nation.

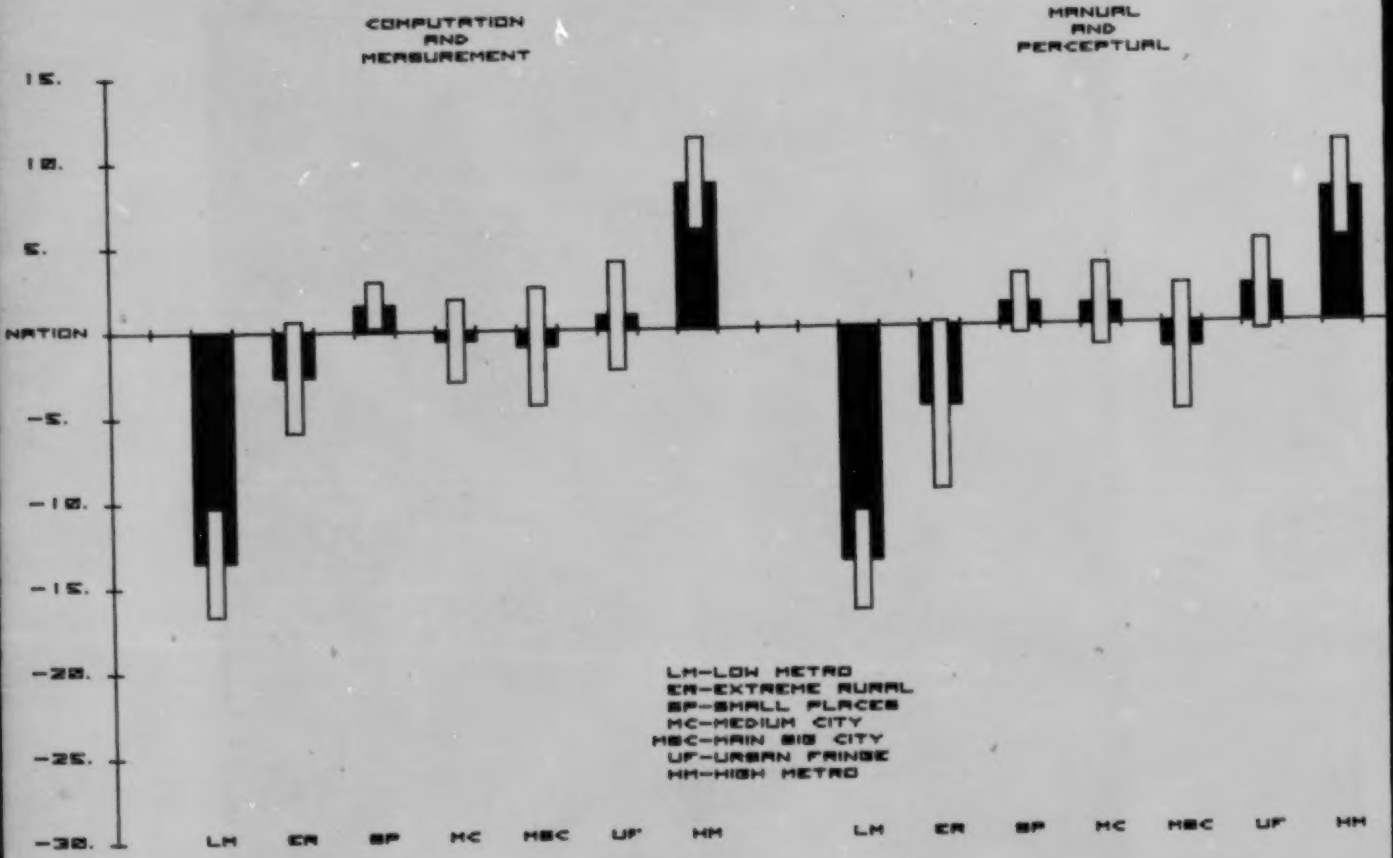
The extreme-rural 9-year-olds were significantly below the nation in average performance on the Work-Related Experiences theme. Thirteen-year-olds living in extreme-rural communities were significantly below the nation in average performance and exercise themes dealing with General Job Knowledge, Specific Job Knowledge, Job Knowledge and Work-Related Values. There were no other significant differences for extreme-rural 13-year-olds. The average performance of extreme-rural 17-year-olds was significantly above the average performance of the nation on Self-Appraisal Skills, but significantly below the average national performance on Specific Job Knowledge. There were no other significant differences between 17-year-old extreme-rural and national average performances. The extreme-rural young adults were not significantly different from the nation on average performance for any exercise theme.

Nine-year-olds living in small places were significantly higher than the nation in average performance on the Computation and Measurement, Graphic and Reference and Generally Useful Skills exercise themes. There were no other significant differences from the national average, in the performance of any age group, on any exercise theme for persons living in small places. For persons living in medium cities, there were no significant differences from the nation, in average performance, on any exercise theme at any age.

Thirteen-year-olds living in main big cities were significantly below the nation in average performance on the General Job Knowledge exercise theme. There were no other significant differences from the nation, in average performance, at any age on any exercise theme, for those living in main big cities. There were a number of significant differences from the nation in average performance for those living in urban-fringe areas. At age 9, the Work-Related Experiences average performance was significantly above that of the nation. At age 13, the average performances on the Specific Job Knowledge and Job Knowledge exercise themes were significantly above the nation's average performances. Young adults, living in urban fringe, had significantly superior performances to that of the nation on the exercise themes dealing with Graphic and Reference, Specific Job Knowledge, Job Knowledge, Self-Appraisal Skills and Work-Related Values. There were no other significant differences from the nation, in average performance, at any age for any exercise theme, for those living in urban fringe.

Figures 5 through 8 show the differences in average performance between the size-and-type-of-community groups and the nation for the various exercise themes and the four ages. Observed differences between average performances of the size-and-type-of-community groups are also reflected in these figures for the exercise themes at each age. Estimates of the pair-wise probabilities of the observed pair-wise group differences, under the assumption of no pair-wise group differences, are given in Appendix A.

FIGURE 5. Delta-P Values for Size and Type of Community, Age 9



	LM	ER	SP	MC	MBC	UF	HM	LM	ER	SP	MC	MBC	UF	HM
DIFFERENCE FROM NATION	-13.5	-2.8	1.8	-0.8	-0.9	0.8	8.6	-13.7	-4.7	1.3	1.2	-1.4	2.2	7.8
STANDARD ERROR	1.8	1.6	0.7	1.2	1.7	1.6	1.4	1.5	2.5	0.9	1.2	1.9	1.3	1.4

FIGURE 5 -- *Continued*

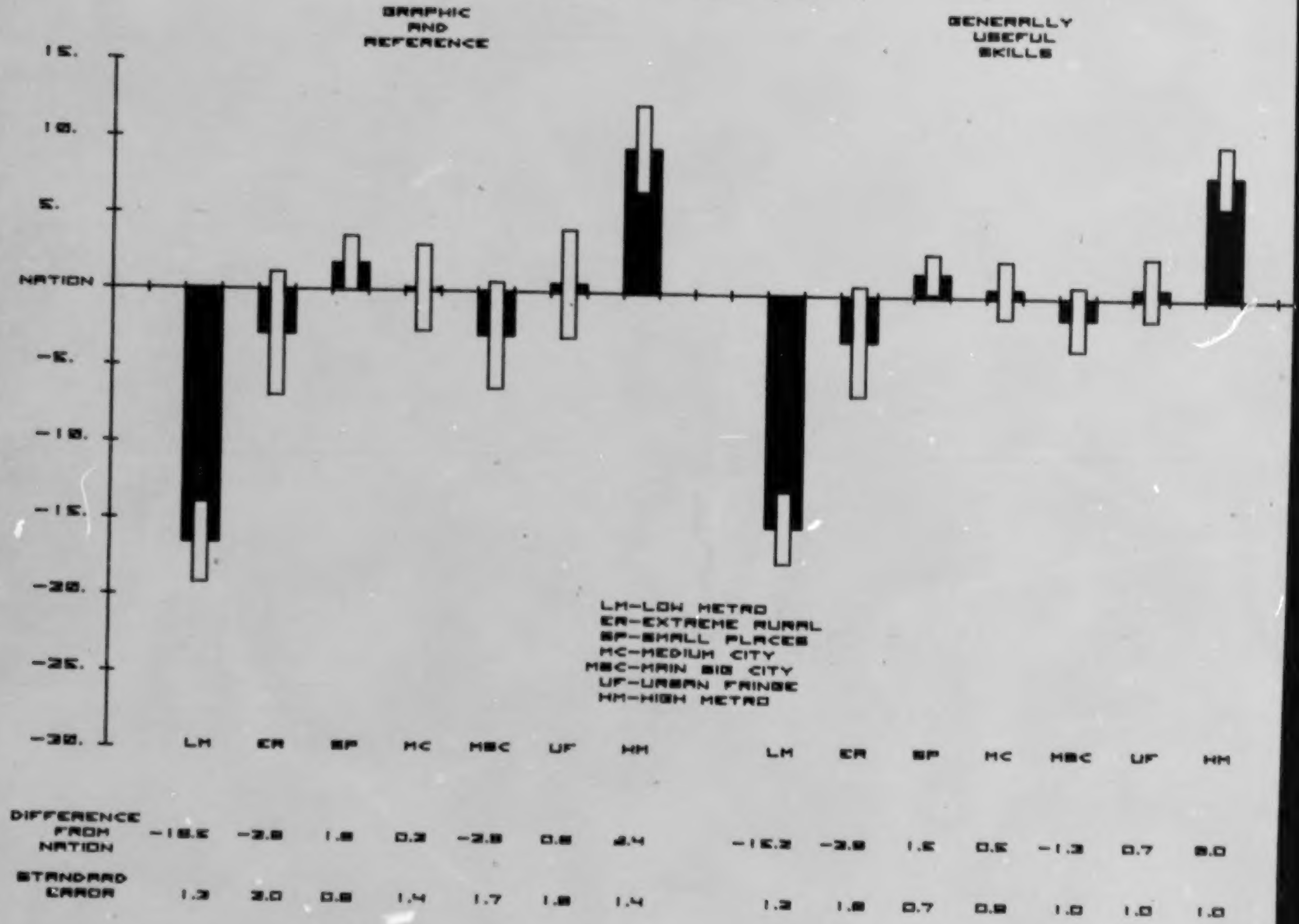


FIGURE 5 -- *Continued*

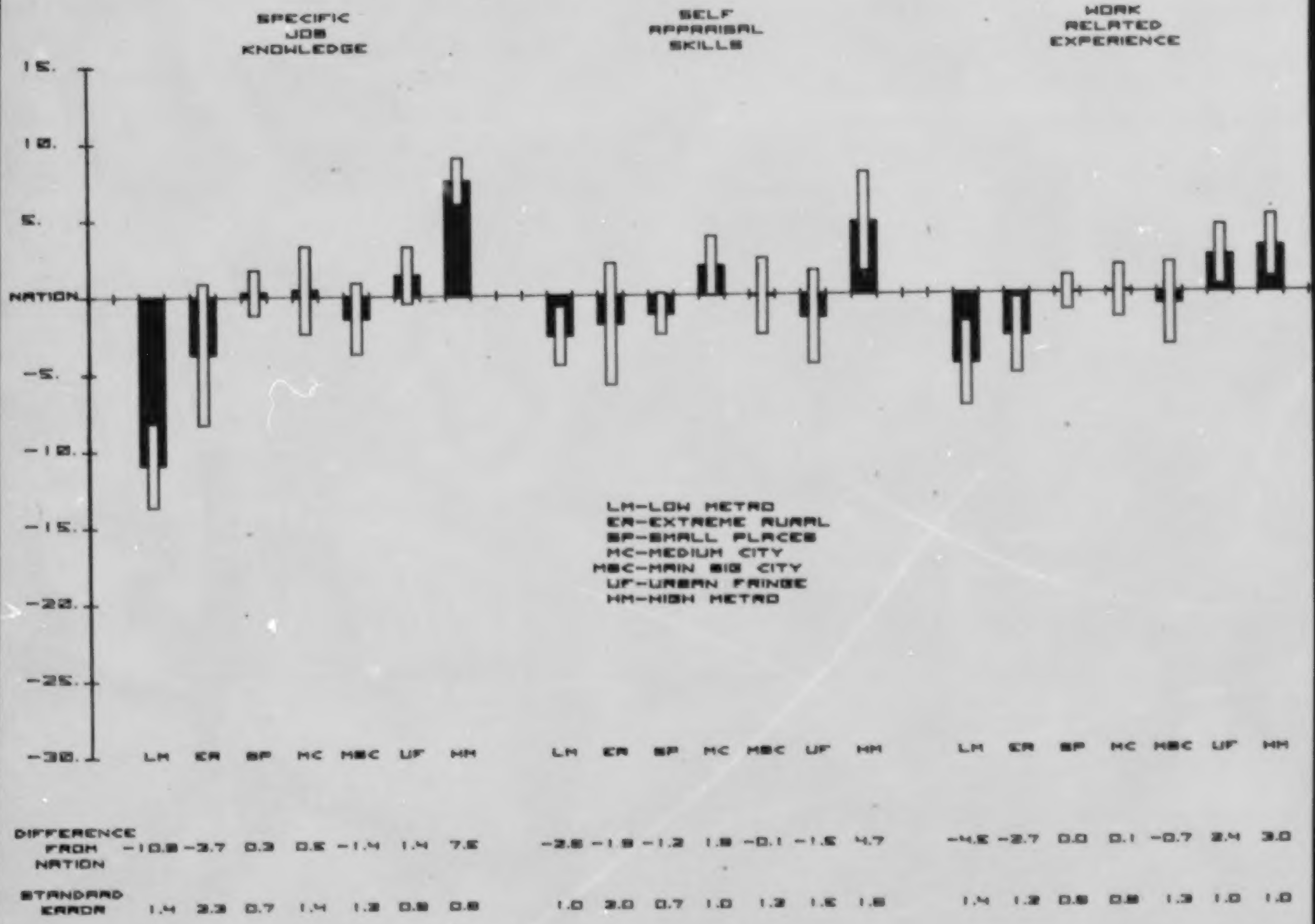
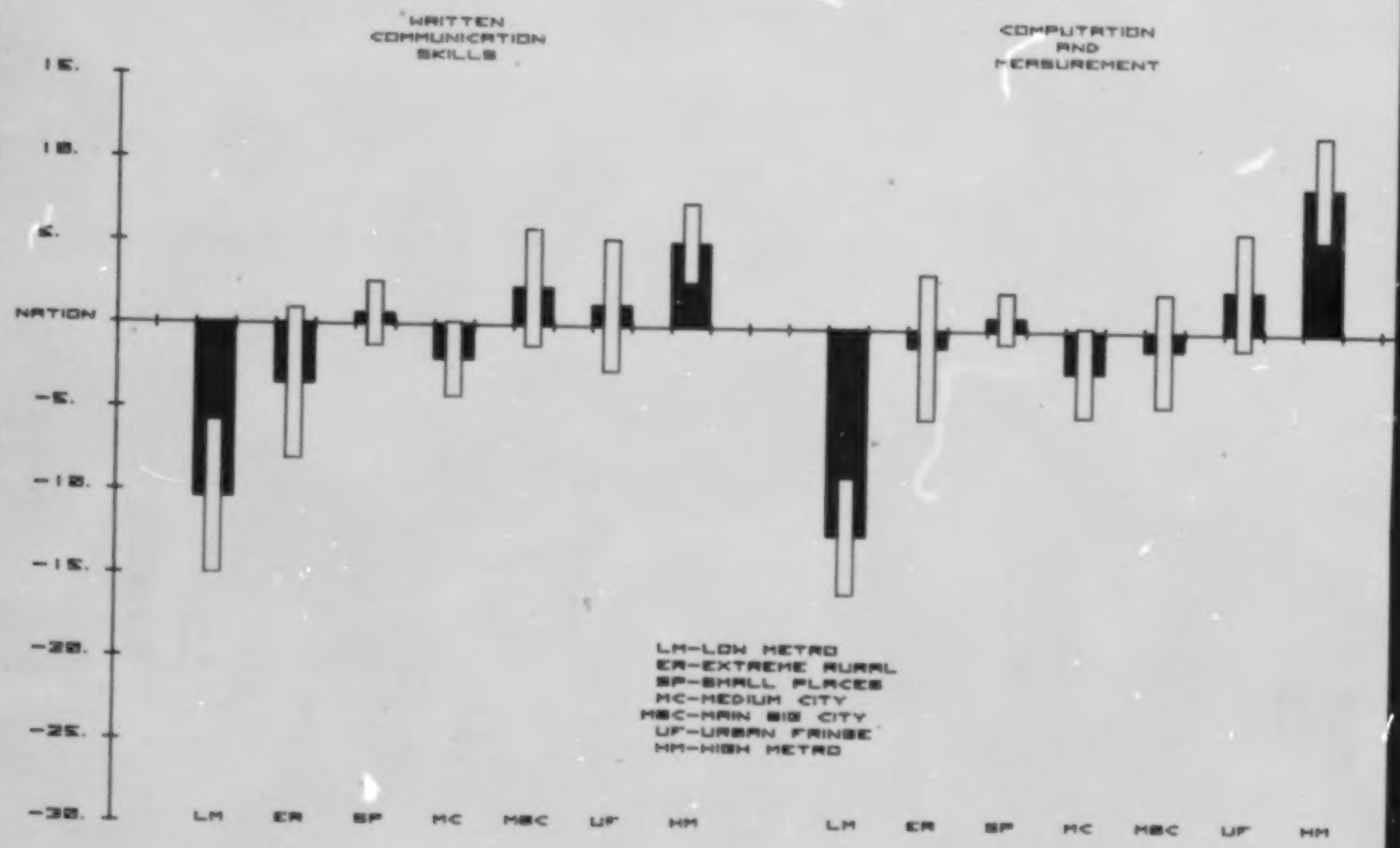


FIGURE 6. Delta-P Values for Size and Type of Community, Age 13



	LM	ER	SP	MC	MBC	UF	HM	LM	ER	SP	MC	MBC	UF	HM
DIFFERENCE FROM NATION	-10.4	-3.6	0.6	-2.1	2.3	1.2	5.0	-12.4	-1.0	0.8	-2.5	-1.1	2.5	8.7
STANDARD ERROR	2.3	2.3	1.0	1.1	1.8	2.0	1.2	1.8	2.2	0.8	1.3	1.7	1.7	1.6

FIGURE 6 -- *Continued*

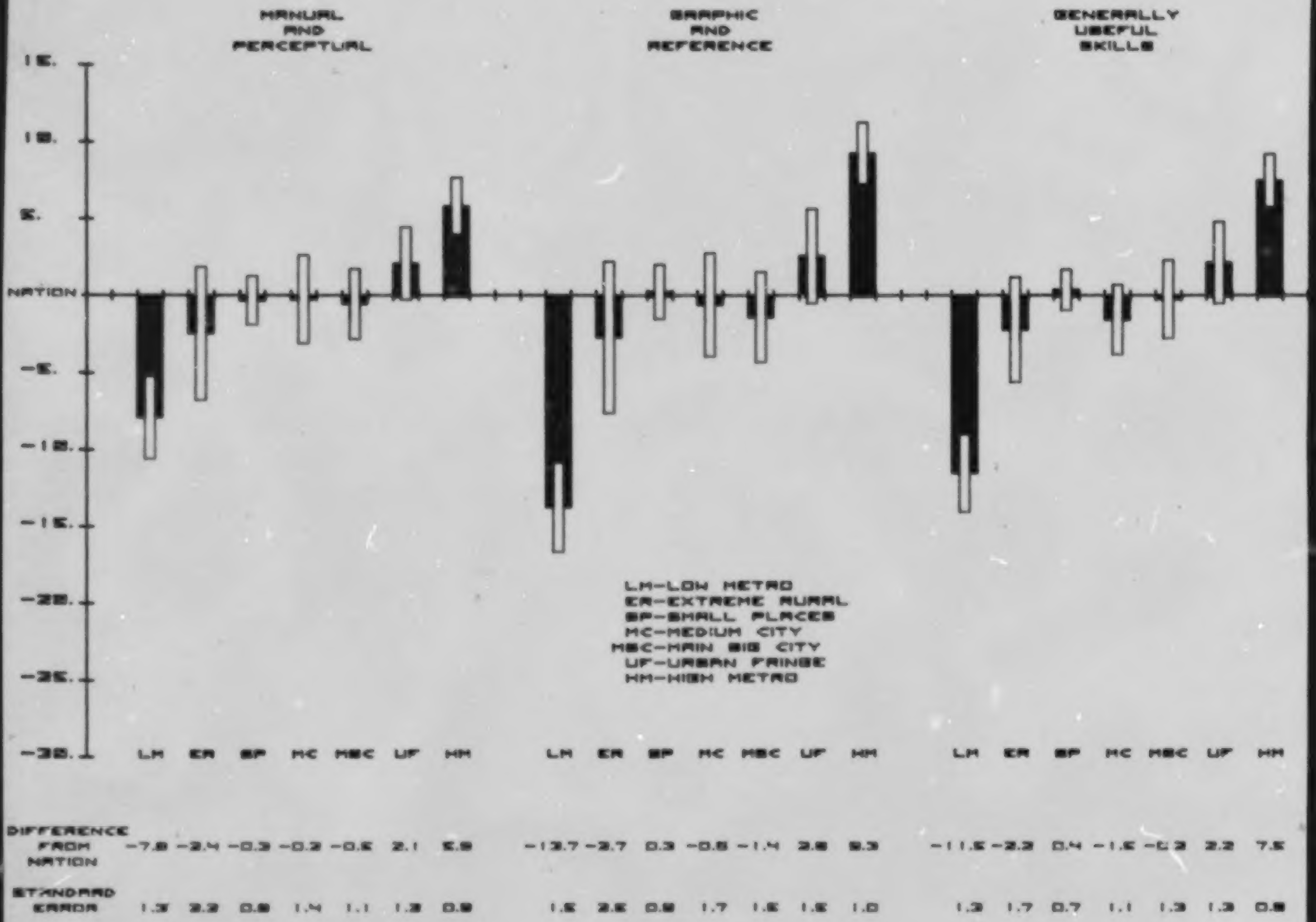


FIGURE 6 -- *Continued*

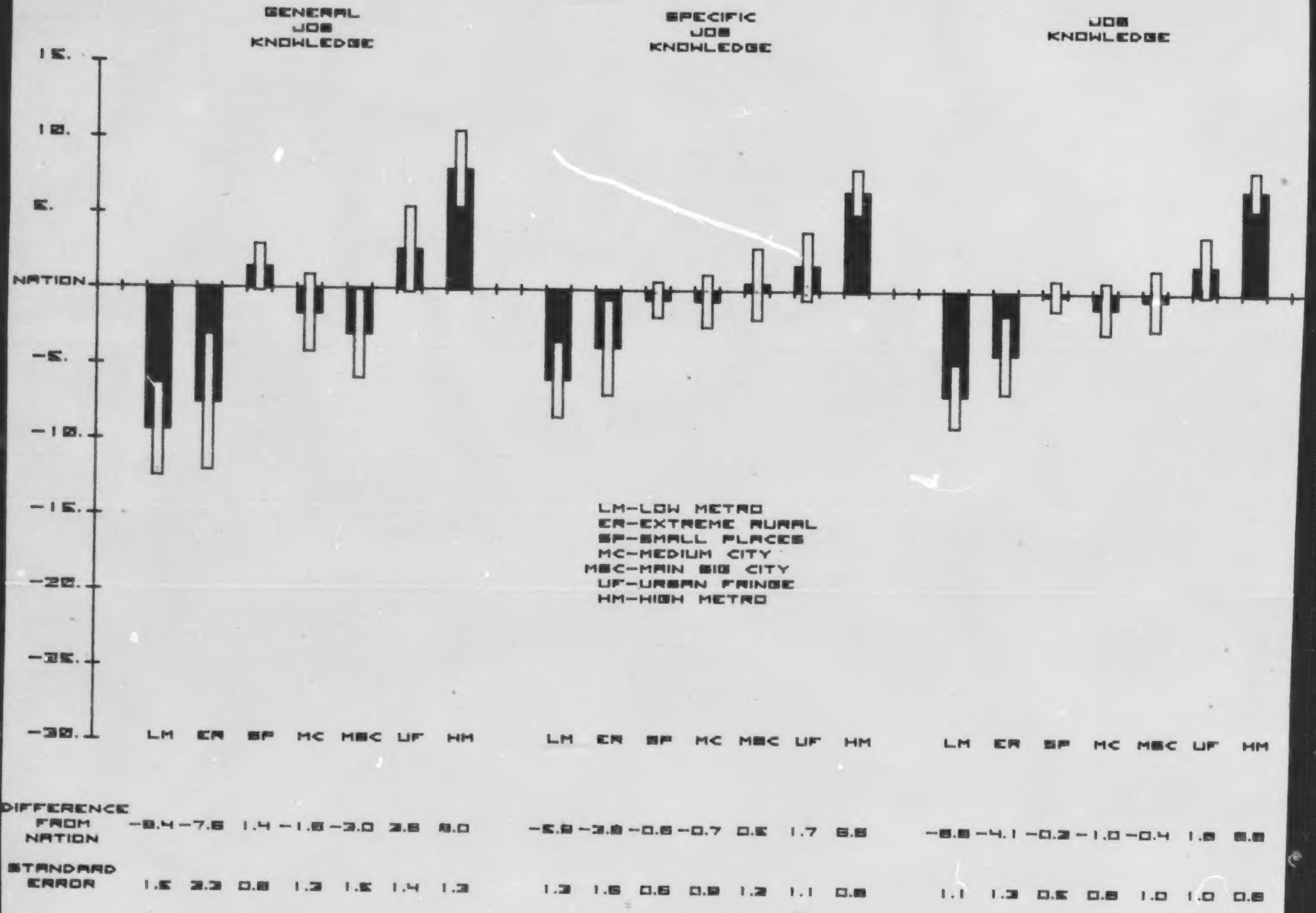


FIGURE 6 -- *Continued*

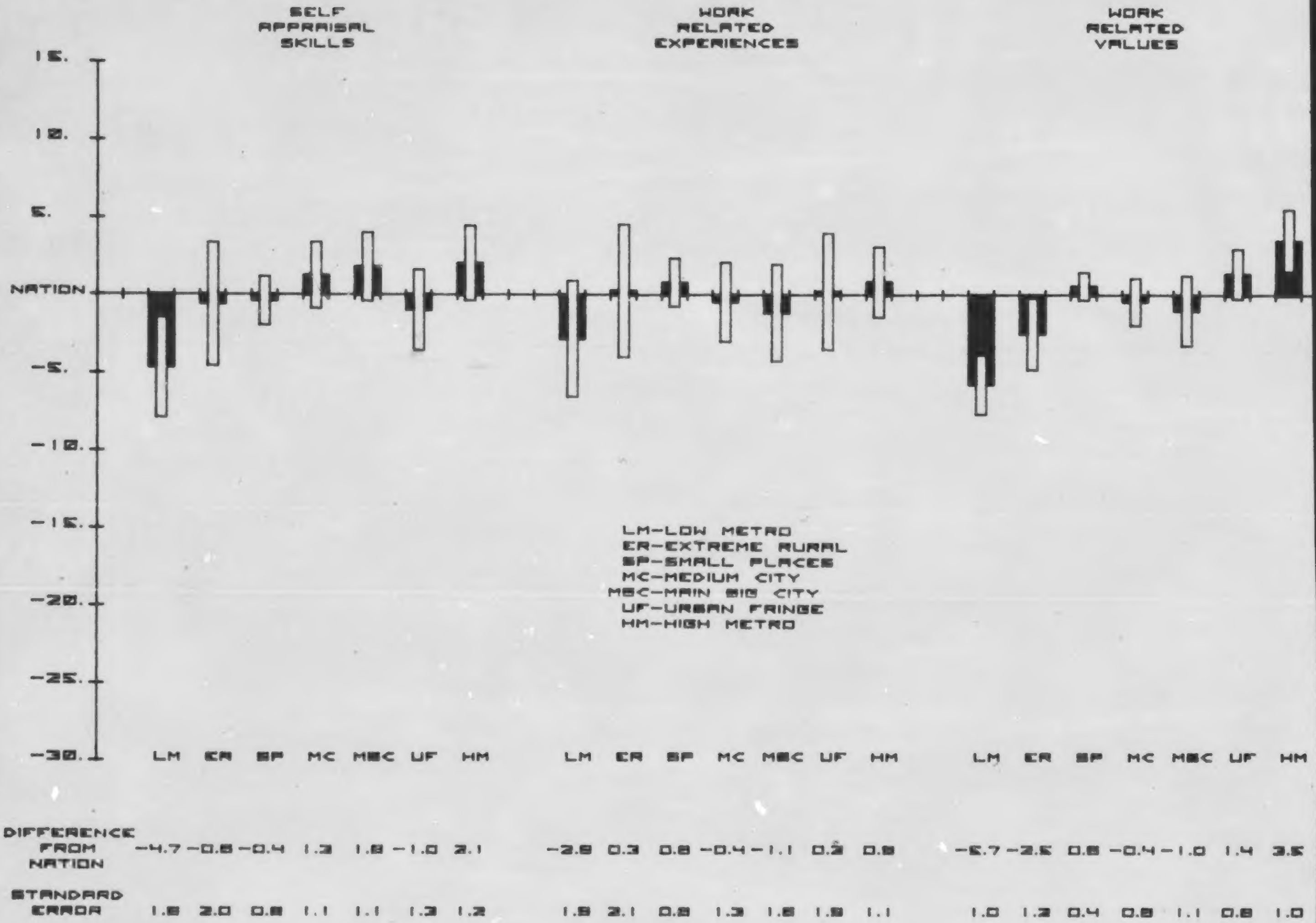


FIGURE 7. Delta-P Values for Size and Type of Community, All Age 17

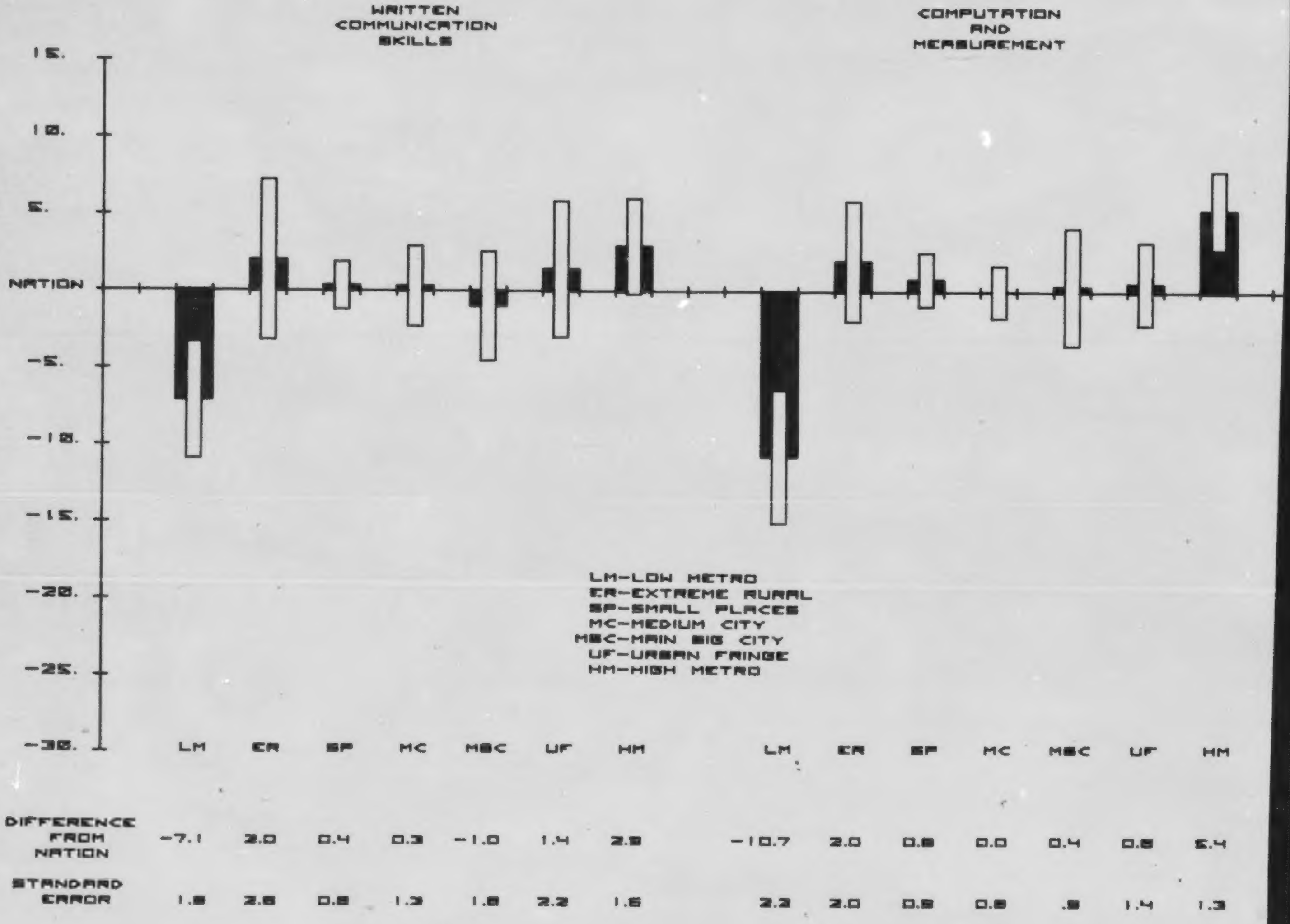
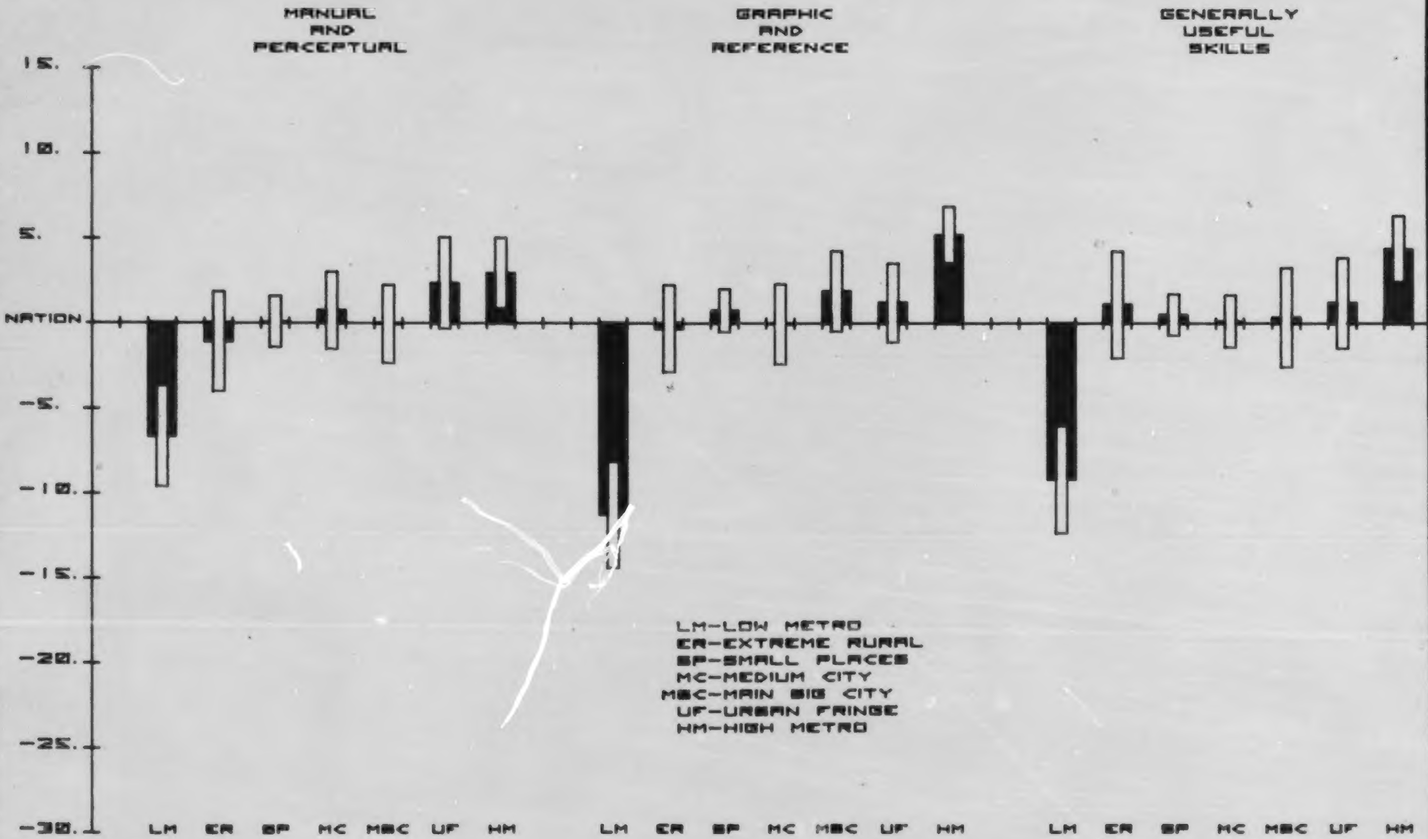
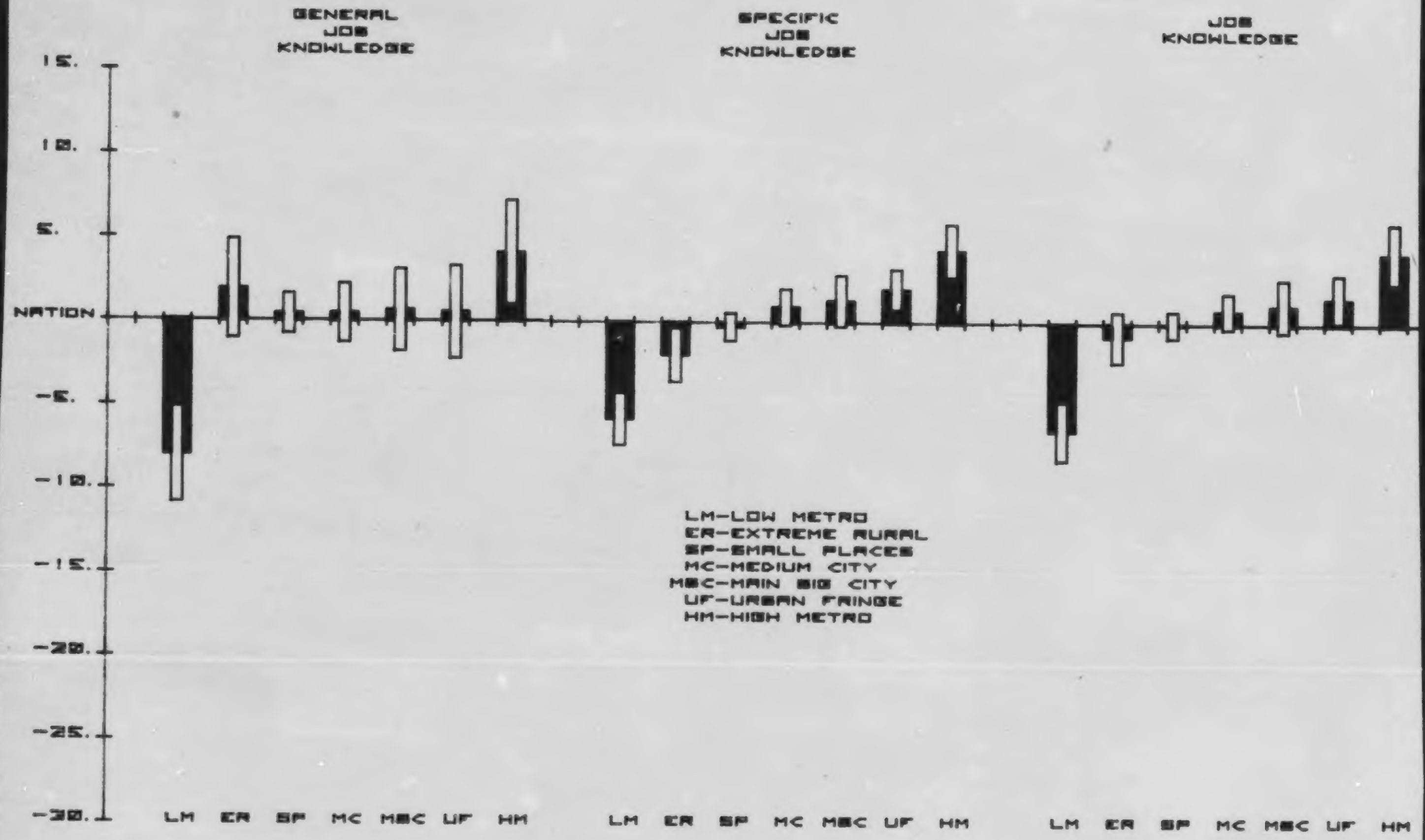


FIGURE 7 -- *Continued*



	LM	ER	SP	MC	MBC	UF	HM	LM	ER	SP	MC	MBC	UF	HM	LM	ER	SP	MC	MBC	UF	HM
DIFFERENCE FROM NATION	-6.6	-1.1	0.1	0.8	-0.1	2.4	3.0	-11.3	-0.3	0.8	-0.1	1.9	1.2	5.2	-9.2	1.1	0.5	0.1	0.4	1.2	4.4
STANDARD ERROR	1.5	1.5	0.8	1.1	1.2	1.3	1.0	1.6	1.3	0.6	1.2	1.2	1.2	[illegible]	1.6	1.6	0.6	0.8	1.5	1.3	1.0

FIGURE 7 -- *Continued*



	LM	ER	SP	MC	MBC	UF	HM	LM	ER	SP	MC	MBC	UF	HM	LM	ER	SP	MC	MBC	UF	HM
DIFFERENCE FROM NATION	-8.0	1.8	0.4	0.5	0.7	0.5	4.1	-5.8	-1.8	-0.2	0.8	1.3	2.0	4.3	-6.4	-0.8	-0.1	0.8	1.1	1.8	4.3
STANDARD ERROR	1.4	1.5	0.8	0.8	1.2	1.4	1.8	0.8	0.8	0.4	0.5	0.6	0.6	0.8	0.8	0.7	0.4	0.6	0.8	0.7	0.8

FIGURE 7 -- *Continued*

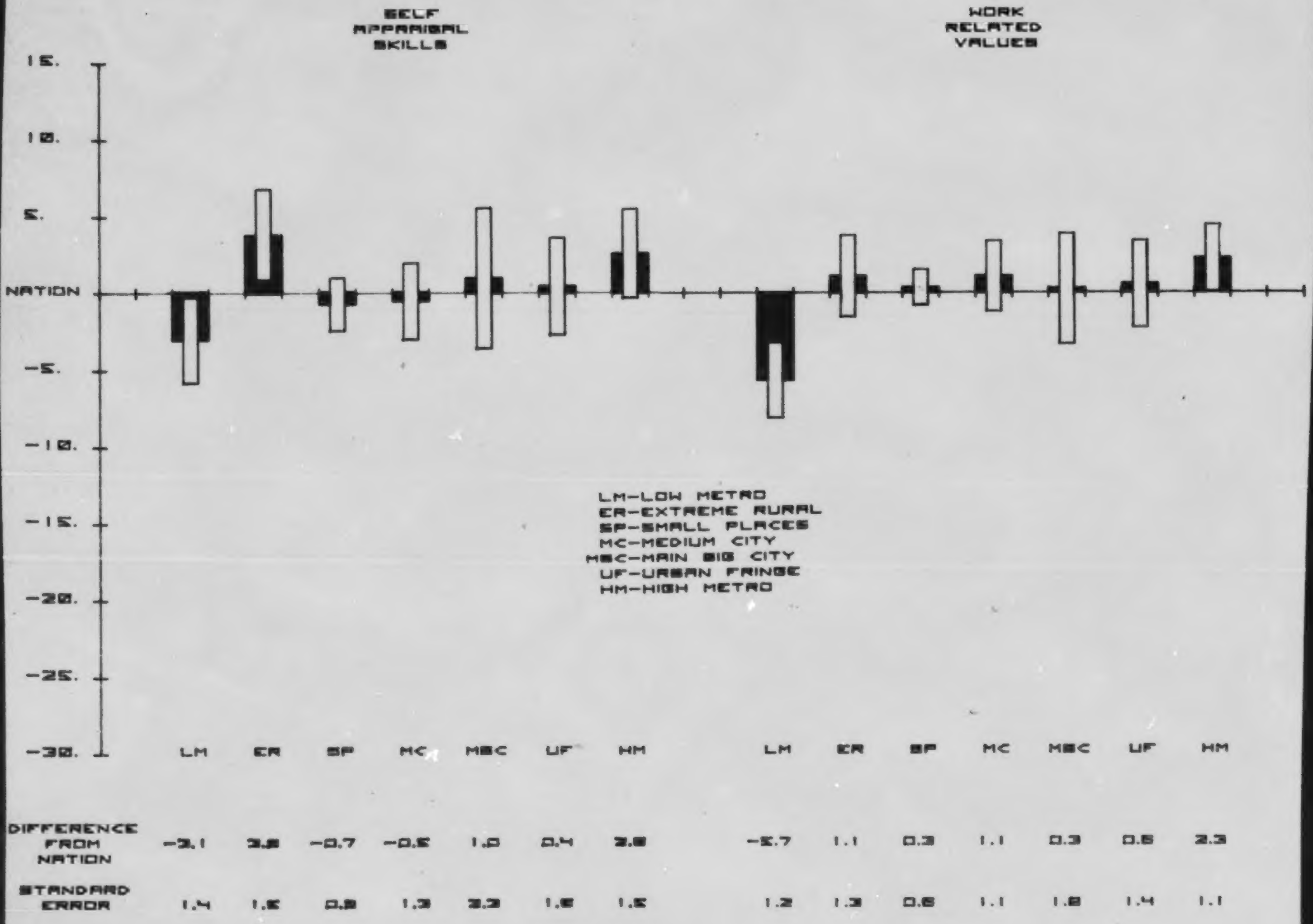
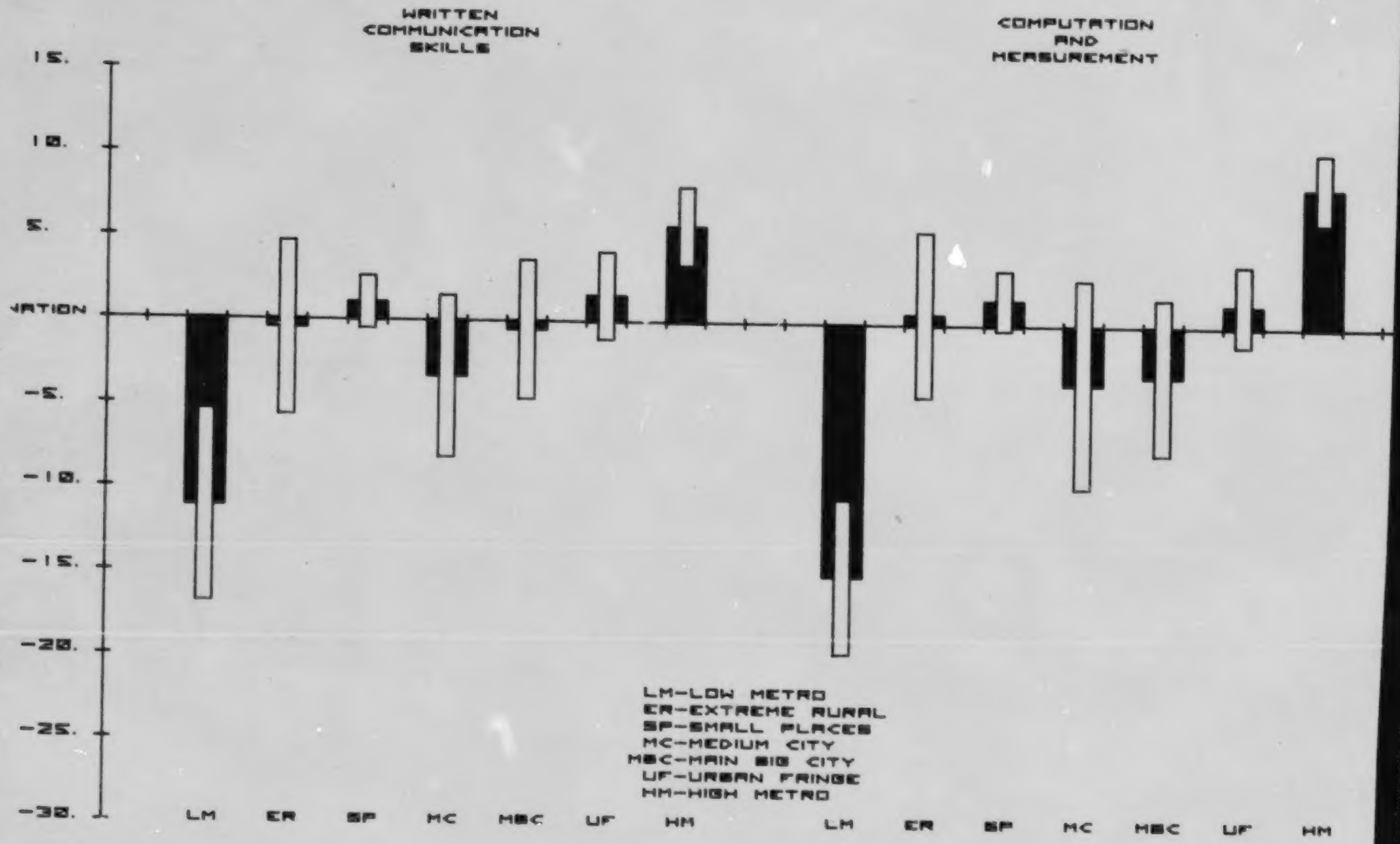
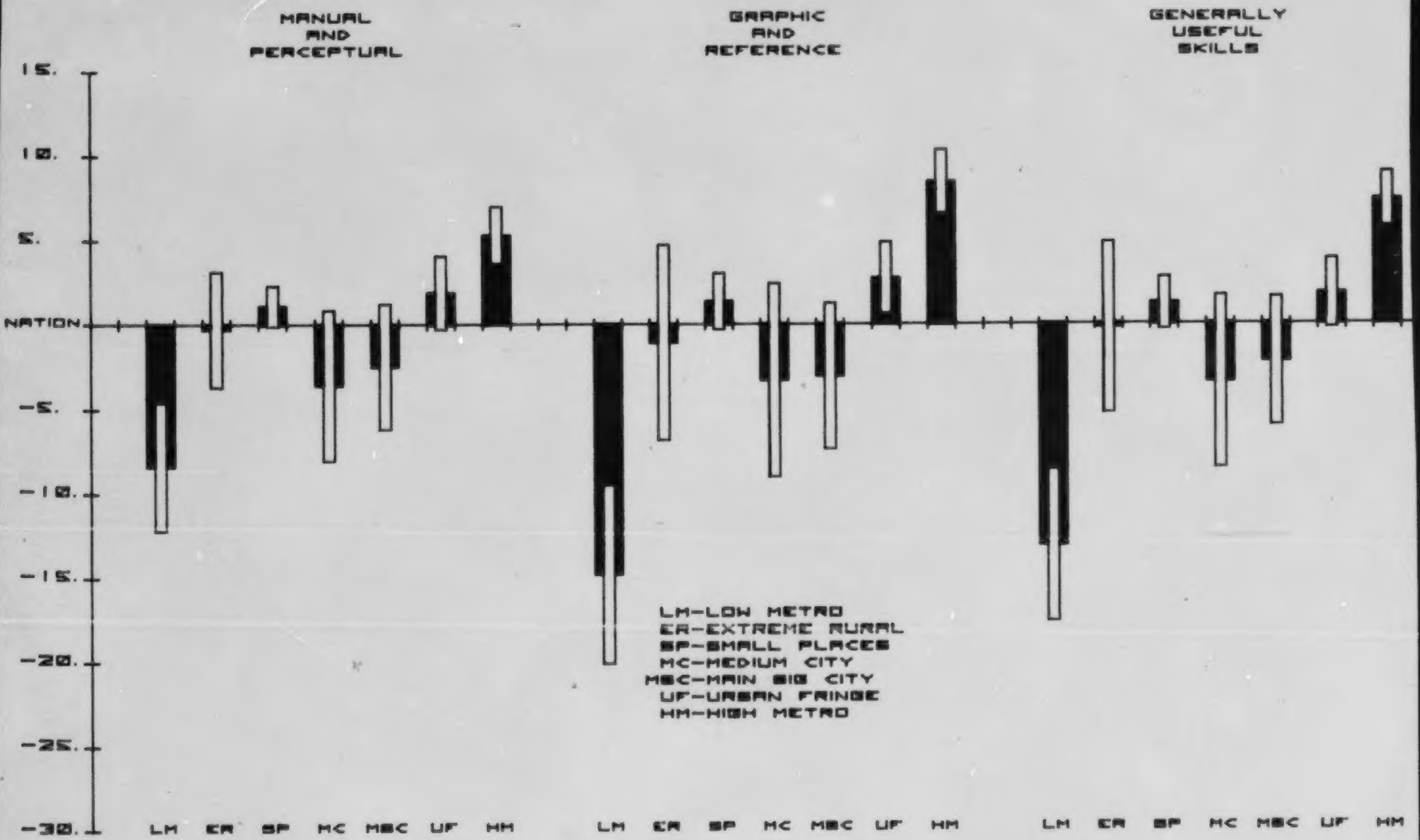


FIGURE 8. Delta-P Values for Size and Type of Community, Adults



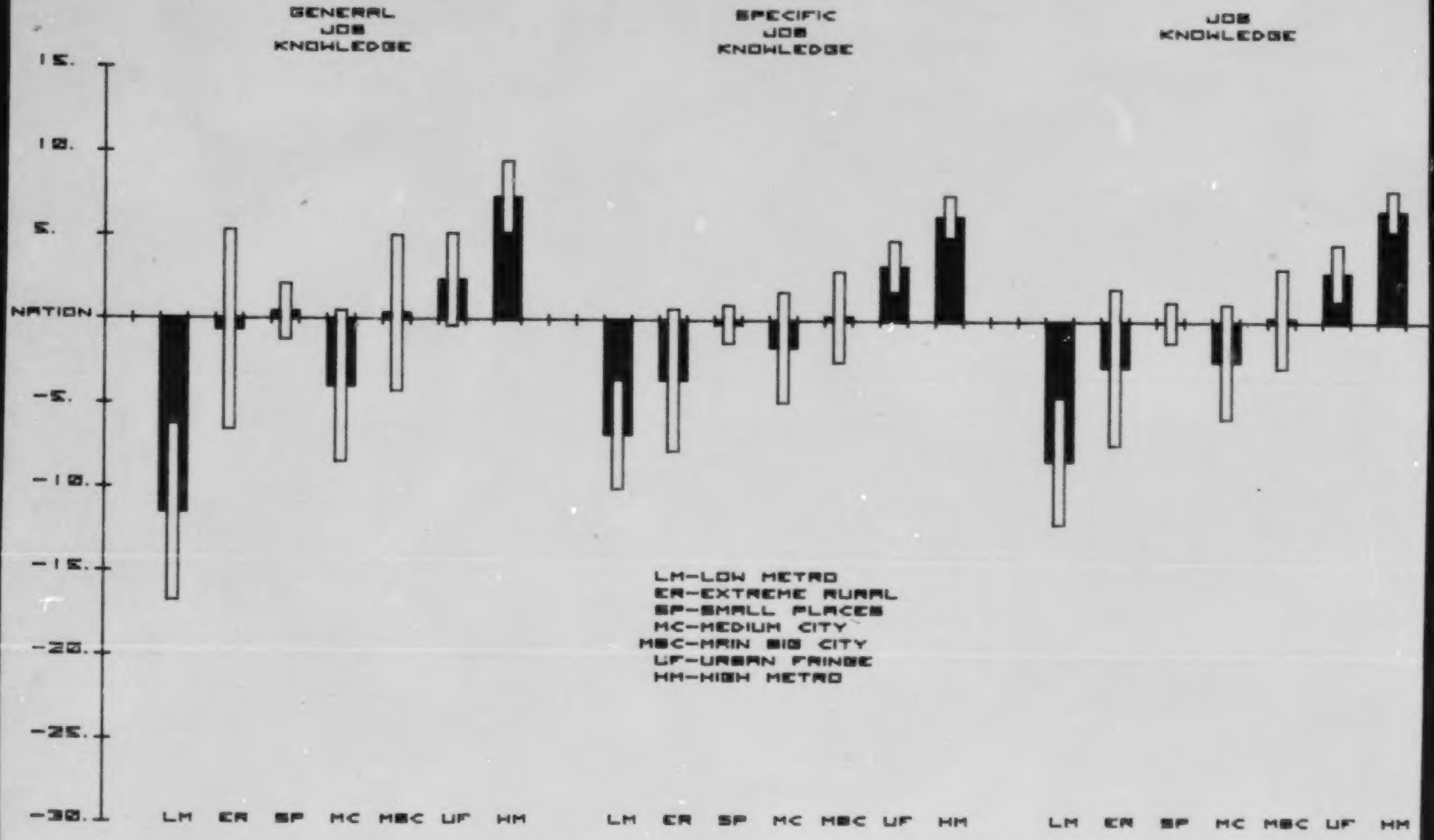
	LM	ER	SP	MC	MBC	UF	HM	LM	ER	SP	MC	MBC	UF	HM
DIFFERENCE FROM NATION	-11.1	-0.5	1.1	-3.3	-0.5	1.5	5.7	-15.1	0.6	1.5	-3.5	-3.0	1.3	8.3
STANDARD ERROR	2.9	2.6	0.8	2.4	2.1	1.3	1.2	2.3	2.5	0.9	3.1	2.3	1.2	1.0

FIGURE 8 -- *Continued*



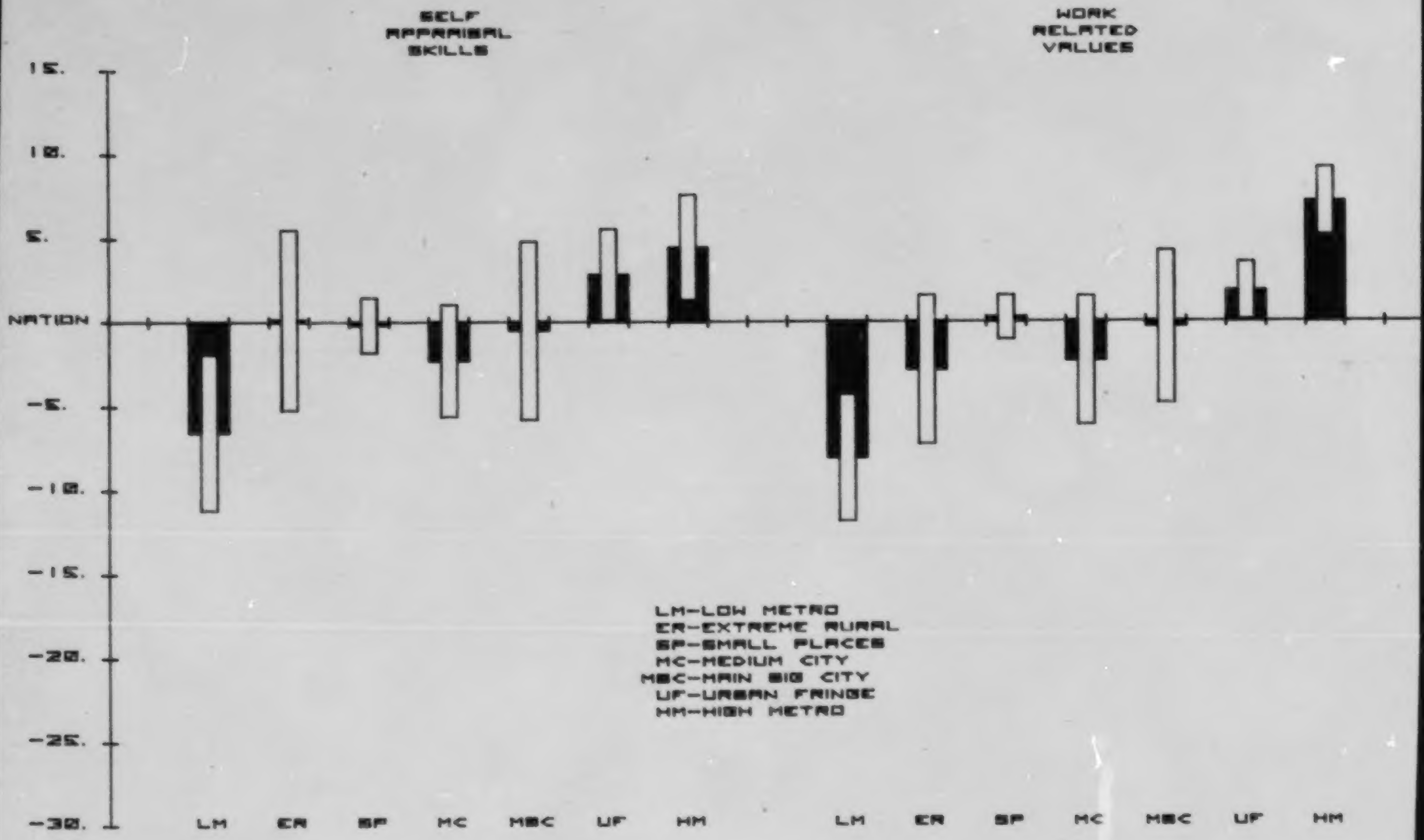
	LM	ER	SP	MC	MBC	UF	HM	LM	ER	SP	MC	MBC	UF	HM	LM	ER	SP	MC	MBC	UF	HM
DIFFERENCE FROM NATION	-8.4	-0.3	1.1	-3.6	-2.5	1.8	5.3	-14.8	-1.1	1.4	-3.3	-3.1	2.7	8.4	-13.1	-0.2	1.3	-3.4	-2.2	1.8	7.4
STANDARD ERROR	1.9	1.7	0.6	2.2	1.8	1.1	0.8	2.7	2.9	0.8	2.9	2.3	1.1	0.8	2.3	2.5	0.8	2.5	1.9	1.0	0.8

FIGURE 8 -- *Continued*



	LM	ER	SP	MC	MBC	UF	HM	LM	ER	SP	MC	MBC	UF	HM	LM	ER	SP	MC	MBC	UF	HM
DIFFERENCE FROM NATION	-11.5	-0.6	0.5	-4.0	0.4	2.4	7.3	-6.8	-3.5	-0.2	-1.6	0.2	3.3	6.3	-8.3	-2.7	0.0	-2.3	0.3	3.0	6.7
STANDARD ERROR	2.6	3.0	0.8	2.3	2.3	1.4	1.1	1.6	2.1	0.6	1.6	1.3	0.8	0.6	1.9	2.3	0.6	1.7	1.5	0.8	0.8

FIGURE 8 -- *Continued*



	LM	ER	SP	MC	MBC	UF	HM	LM	ER	SP	MC	MBC	UF	HM
DIFFERENCE FROM NATION	-6.5	0.2	-0.2	-2.3	-0.5	2.8	4.4	-8.1	-2.8	0.3	-2.3	-0.3	1.8	7.1
STANDARD ERROR	2.3	2.7	0.8	1.7	2.7	1.4	1.6	1.8	2.2	0.7	1.8	2.3	0.8	1.0

CHAPTER 3

EDUCATION LEVEL OF PARENTS AND SELF

In this chapter, four variables dealing with education are discussed. They are: (1) parental education, (2) grade-age, (3) own education and (4) continuing education. The latter two are adult variables only. Grade-age refers to the school grade of those aged 9, 13 and 17. These are not grade samples but rather, for example, groups of 9-year-olds who are third and fourth graders, and so forth. This variable is only defined for 17-year-olds who were in school. For grade-age, at age 9, the graphs contain performance estimates for those who were in less than third grade and greater than fourth grade. These data are extremely unstable due to extremely small sample sizes. The unstability can be seen in the large confidence intervals. These data are included only for the sake of completeness; using them as estimates of less than third grade and greater than fourth grade performance would be unwise. Similar remarks apply to the less-than-seventh-grade and the greater-than-eighth-grade categories at age 13 and the less-than-tenth-grade category at age 17.

Parental Education

In general, the average observed performance of respondents improved as the level of their parents' education went up. This pattern was repeated across exercise themes and ages.

At age 9, the average performance of the group whose parents had no high school education was significantly below the average national performance on all themes except Self-Appraisal Skills. The 9-year-olds in the graduated-from-high-school group had average performances significantly above the average performance of the nation on exercise themes dealing with Computation and Measurement and Specific Job Knowledge. On all the other exercise themes, this group's average performance was not significantly different from the average national performance. The 9-year-old post-high-school group's average performance was significantly above the nation's average performance on all exercise themes.

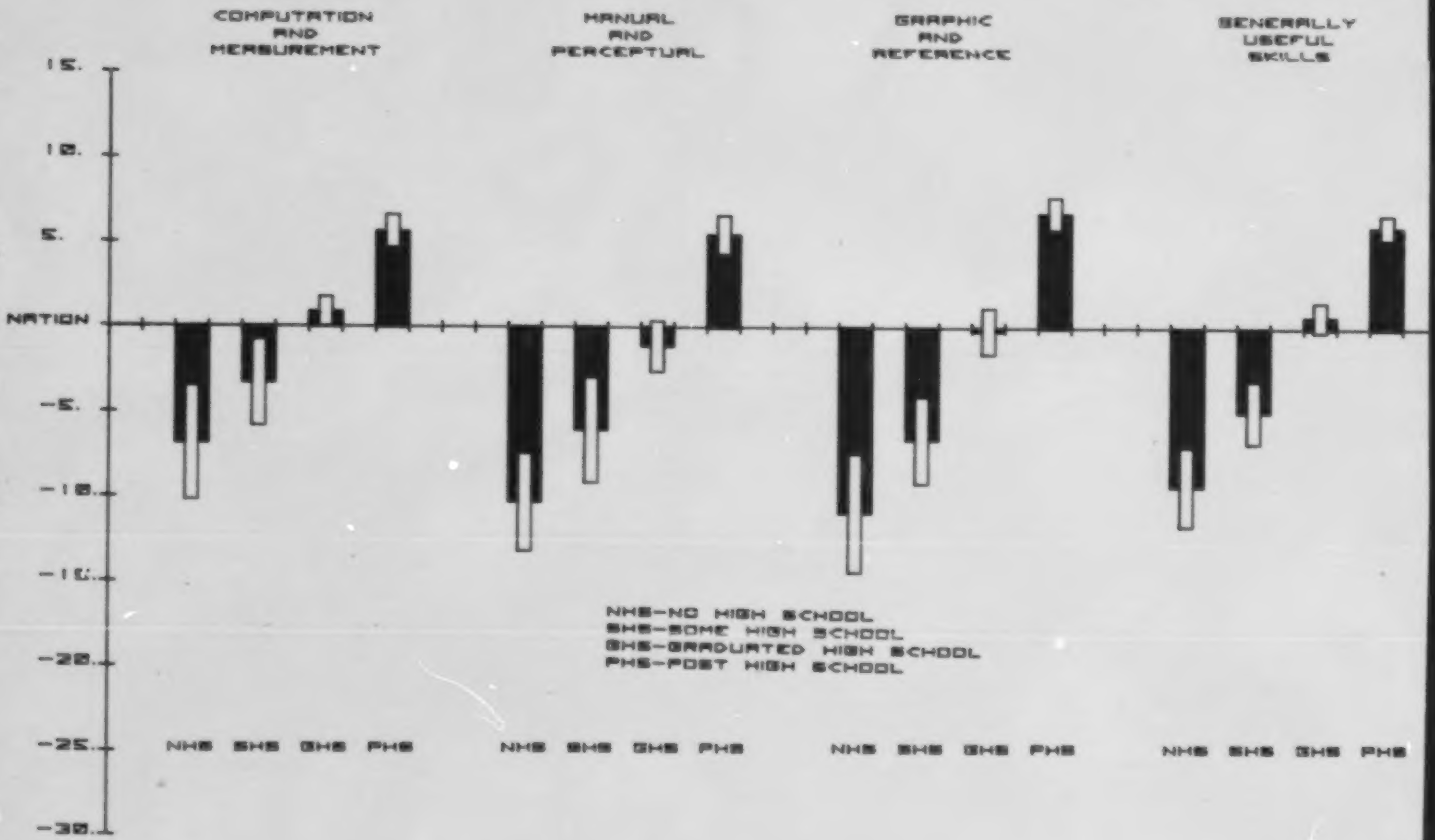
The age 13 no-high-school group was not significantly different from the nation in average performance on the Self-Appraisal Skills theme. Their average performance was significantly below the national average on all other exercise themes. The some-high-school group at age 13 was significantly below the nation in average performance on all exercise themes. There were no significant differences between the 13-year-old graduated-from-high-school group and the nation, in average performance, on any exercise theme. The 13-year-old post-high-school group was significantly above the nation in average performance on all of the exercise themes.

At age 17, the no-high-school and the some-high-school groups were significantly below the nation, in average performance, for all exercise themes. At this age, the graduated-high-school group was not significantly different from the nation, in average performance, on any exercise theme. Seventeen-year-olds, whose parents had some post high school education, were significantly higher than the nation, in average performance, on all exercise themes.

Adults in the no- and some-high-school groups of parental education had average performances significantly lower than the average performances of the nation on all exercise themes. The adult graduated-high-school and post-high-school groups had average performances of the nation, on all exercise themes.

Figures 9 through 12 show the average performance differences between the parental-education groups and the nation for the various exercise themes and the four ages. Observed differences between average performances of the parental-education groups are also reflected in these figures for the exercise themes at each age. Estimates of the pair-wise probabilities of the observed pair-wise group differences, under the assumption of no pair-wise group differences, are given in Appendix A.

FIGURE 9. Delta-P Values for Parental Education, Age 9



	NHS	SHS	GHS	PHS	NHS	SHS	GHS	PHS	NHS	SHS	GHS	PHS	NHS	SHS	GHS	PHS
DIFFERENCE FROM NATION	-6.8	-3.3	0.8	5.8	-10.3	-6.1	-1.1	5.5	-10.9	-6.8	-0.2	6.8	-9.3	-4.9	0.7	6.0
STANDARD ERROR	1.7	1.3	0.4	0.5	1.4	1.6	0.7	0.6	1.8	1.3	0.7	0.5	1.2	0.9	0.4	0.4

FIGURE 9 -- *Continued*

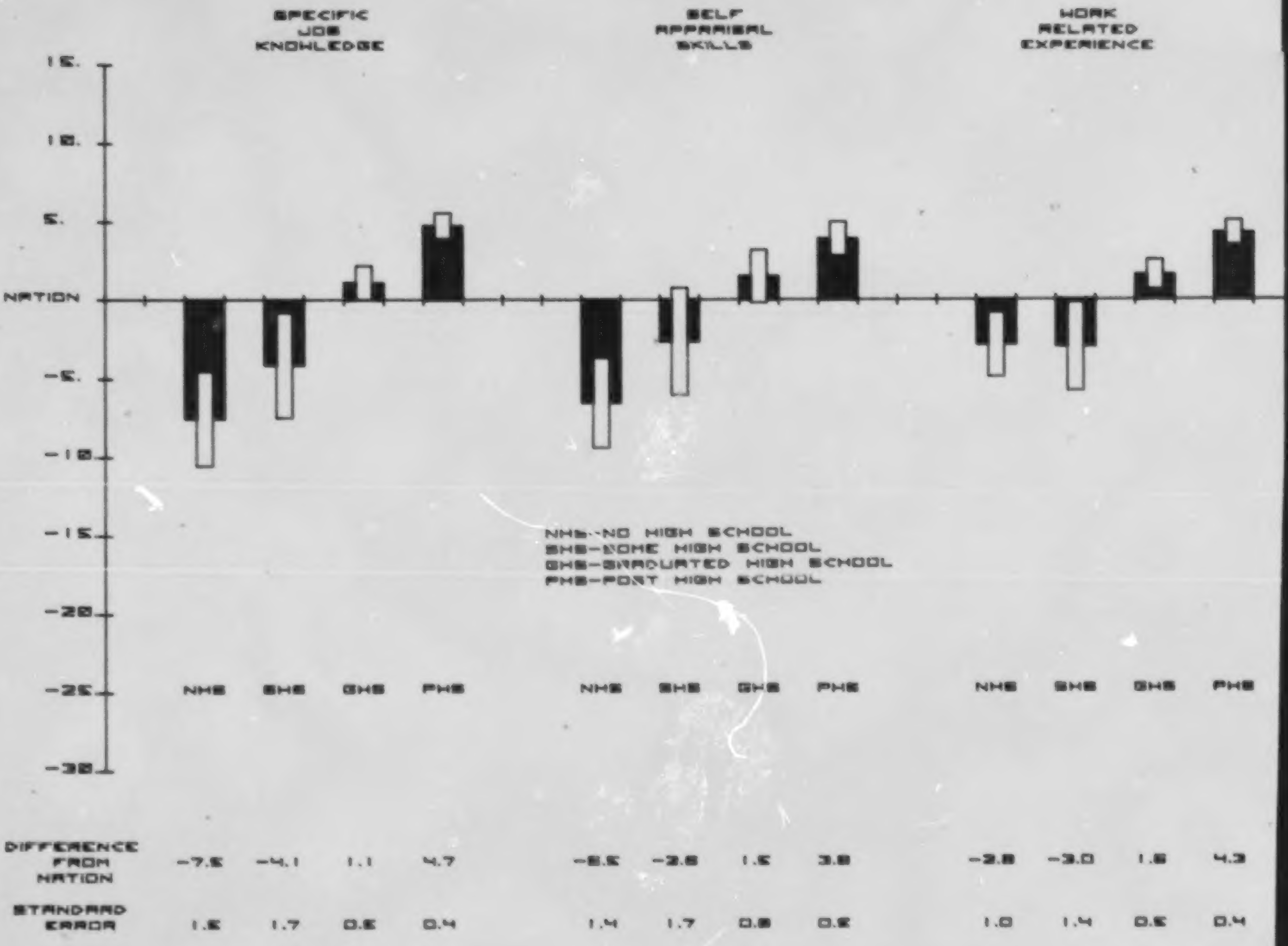


FIGURE 10. Delta-P Values for Parental Education, Age 13

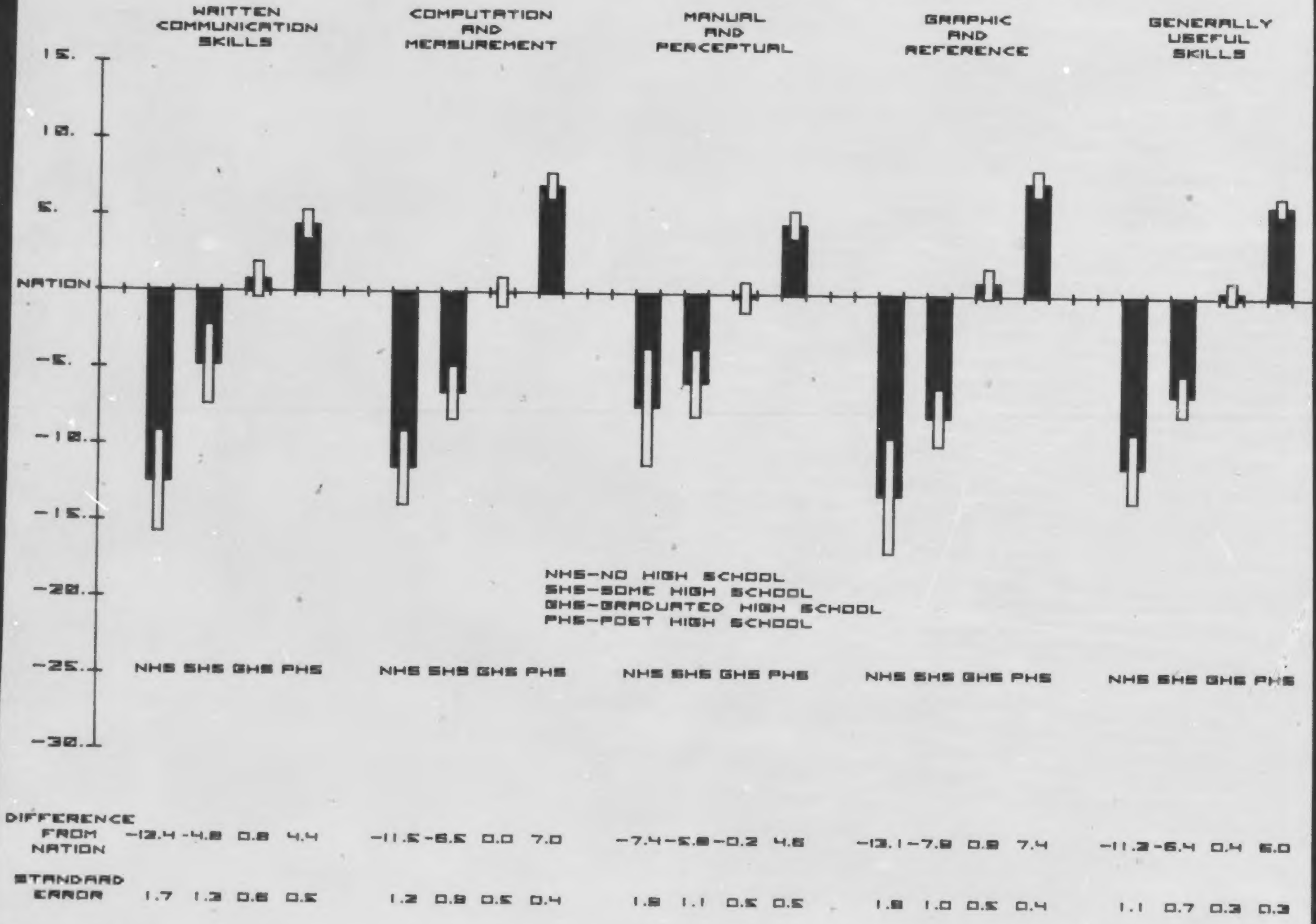
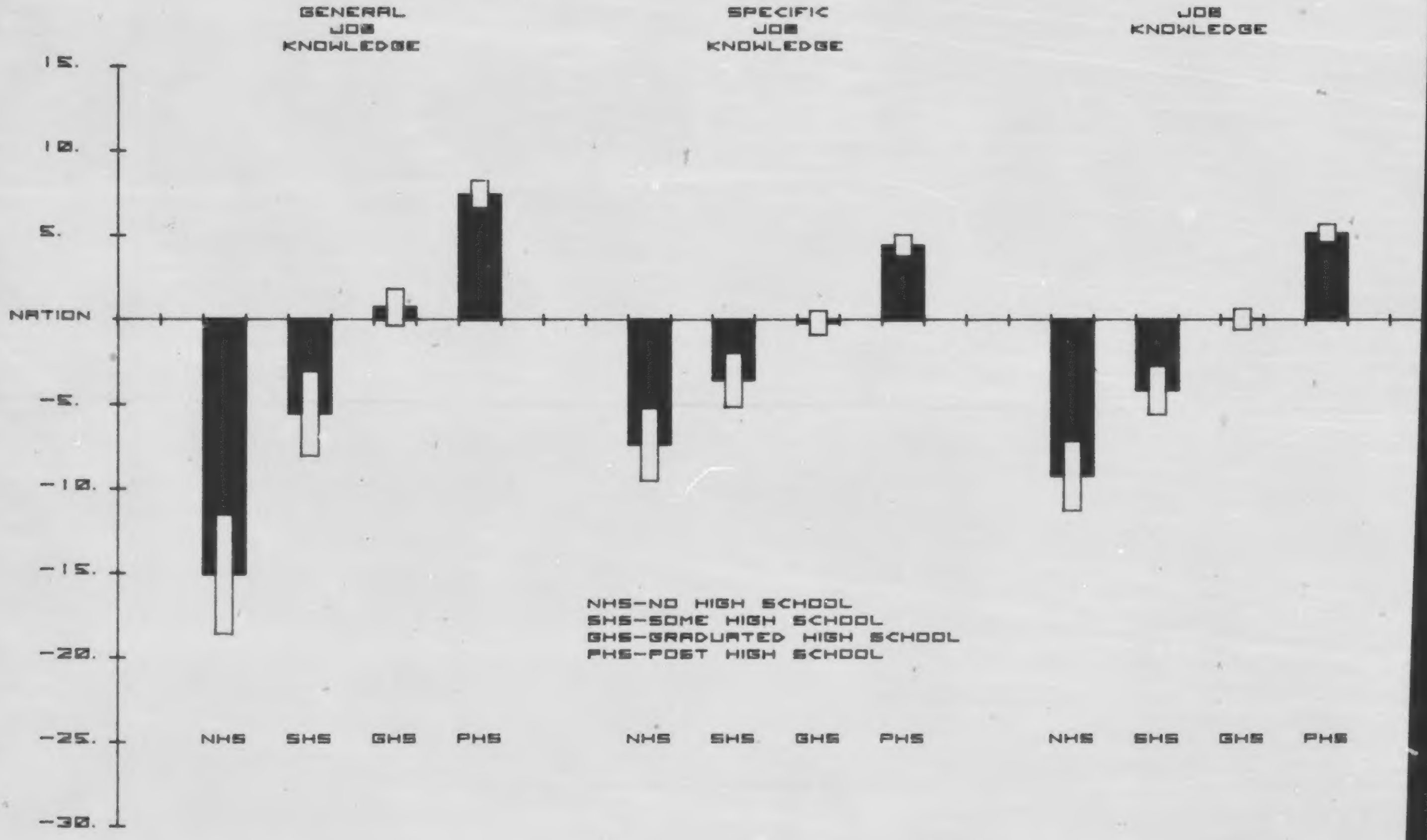
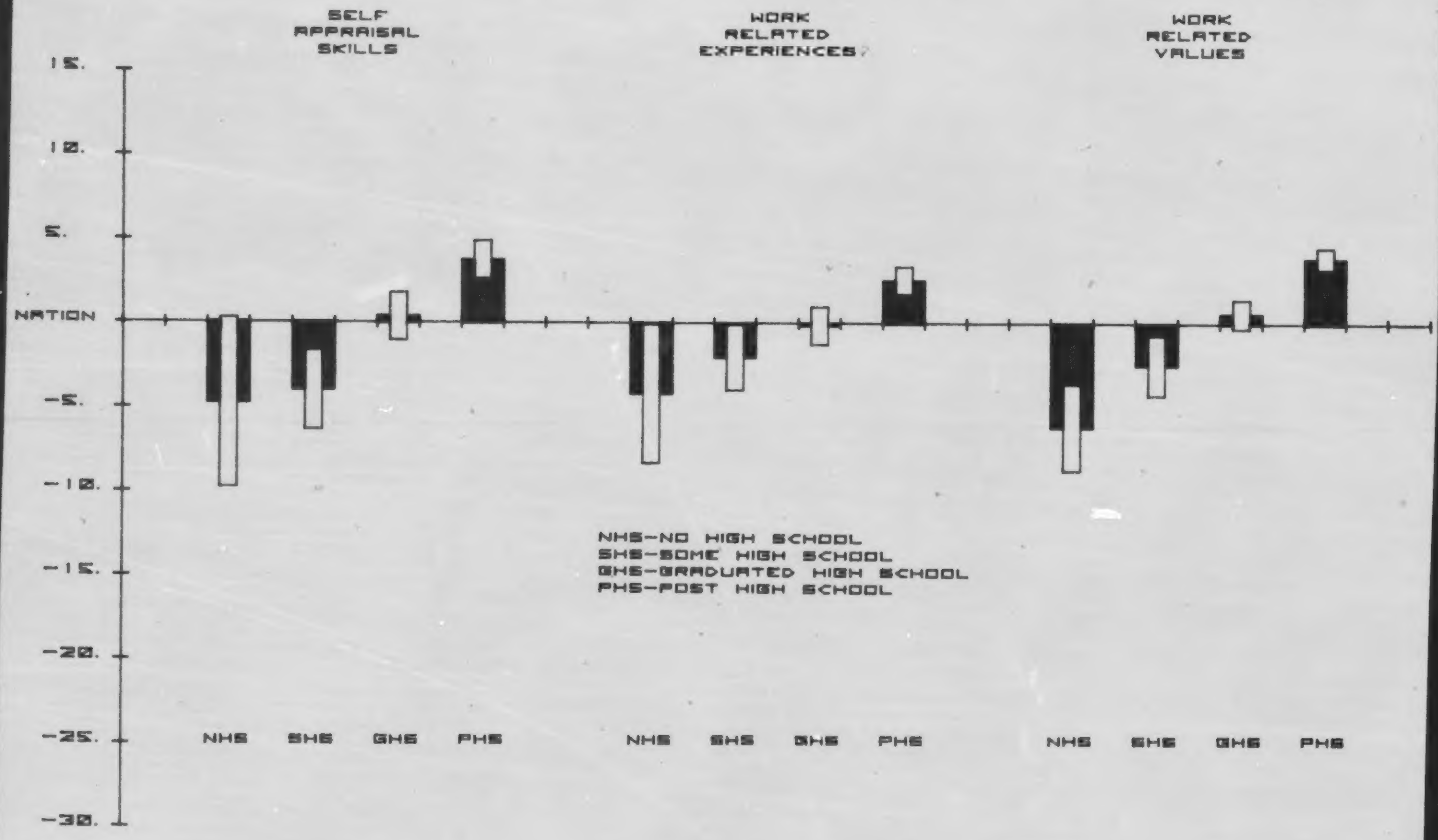


FIGURE 10 -- *Continued*



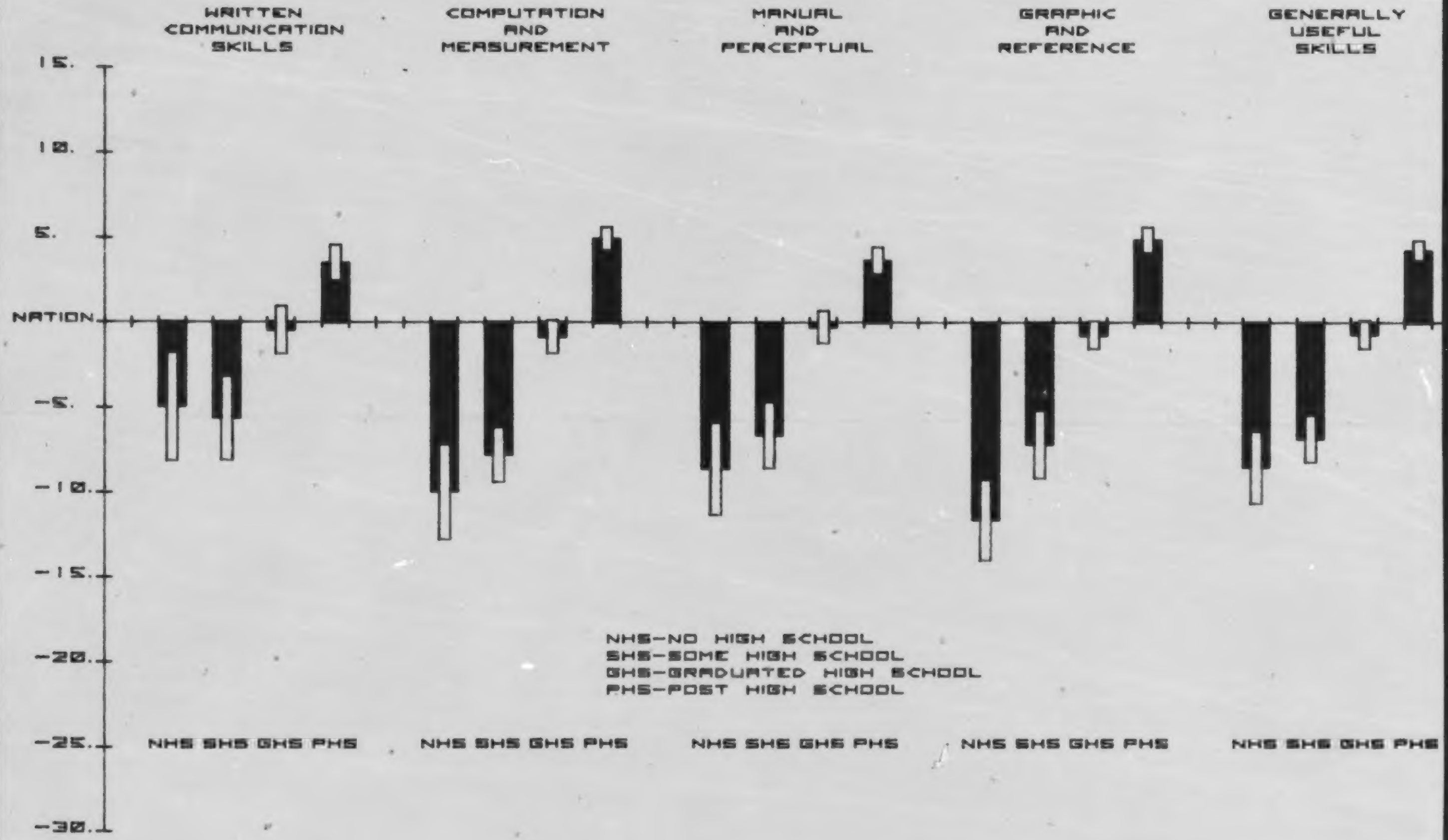
	NHS	SHS	GHS	PHS	NHS	SHS	GHS	PHS	NHS	SHS	GHS	PHS
DIFFERENCE FROM NATION	-15.0	-5.5	0.7	7.4	-7.4	-3.5	-0.2	4.4	-9.2	-4.1	0.0	5.1
STANDARD ERROR	1.8	1.3	0.5	0.4	1.1	0.8	0.4	0.3	1.0	0.7	0.3	0.3

FIGURE 10 -- *Continued*



	NHS	SHS	GHS	PHS	NHS	SHS	GHS	PHS	NHS	SHS	GHS	PHS
DIFFERENCE FROM NATION	-4.7	-4.0	0.4	3.7	-4.2	-2.0	-0.2	2.8	-6.2	-2.5	0.6	3.8
STANDARD ERROR	2.5	1.2	0.7	0.6	2.1	1.0	0.6	0.4	1.3	0.9	0.4	0.3

FIGURE 11. Delta-P Values for Parental Education, All Age 17



DIFFERENCE FROM NATION	-4.9	-5.8	-0.5	3.5	-10.0	-7.8	-0.9	4.9	-8.6	-6.6	-0.3	3.7	-11.6	-7.1	-0.7	4.8	-8.5	-6.8	-0.7	4.3
STANDARD ERROR	1.6	1.2	0.7	0.5	1.4	0.8	0.5	0.3	1.4	1.0	0.5	0.4	1.2	1.0	0.4	0.4	1.1	0.7	0.4	0.3

FIGURE 11 -- *Continued*

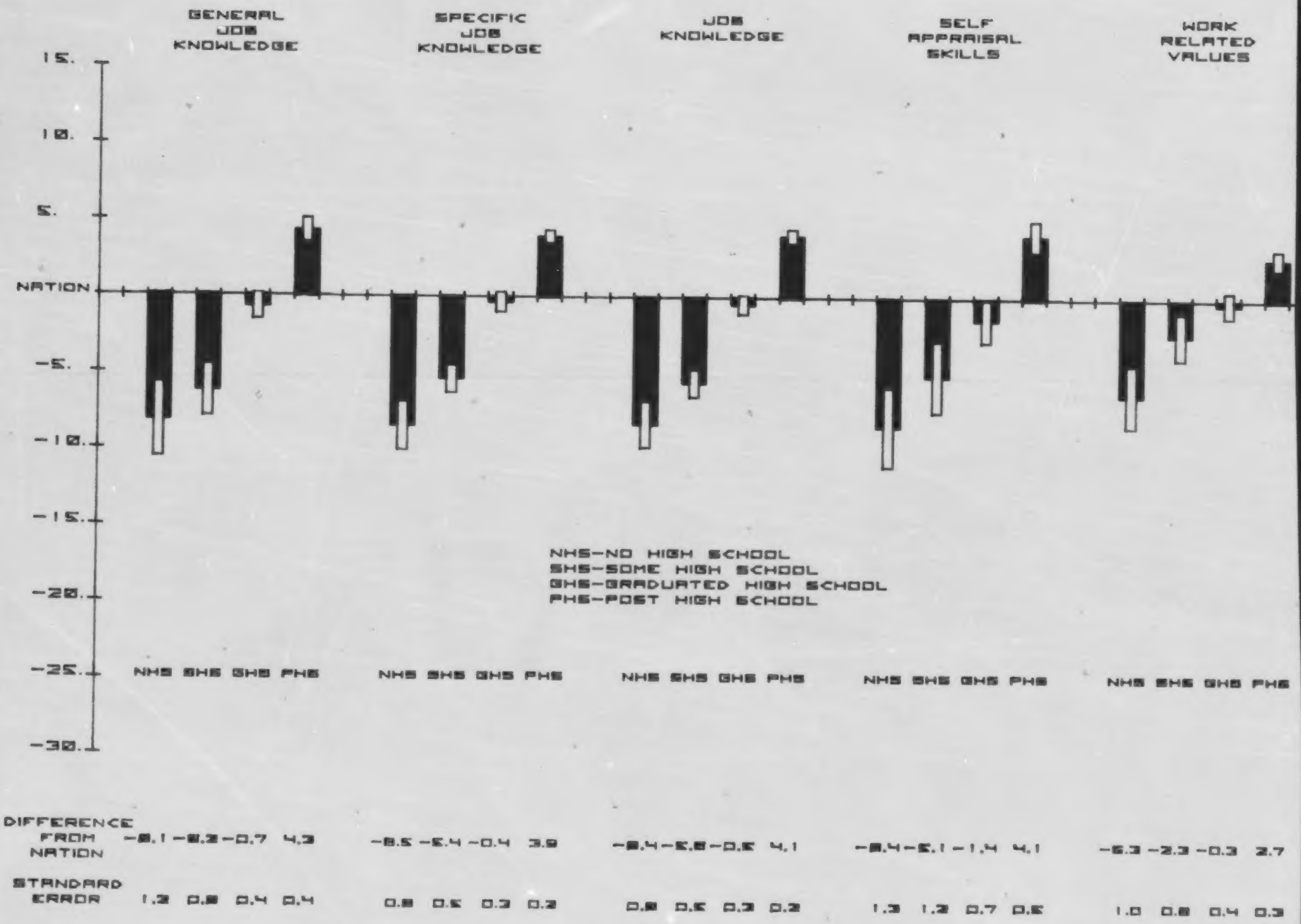


FIGURE 12. Delta-P Values for Parental Education, Adults

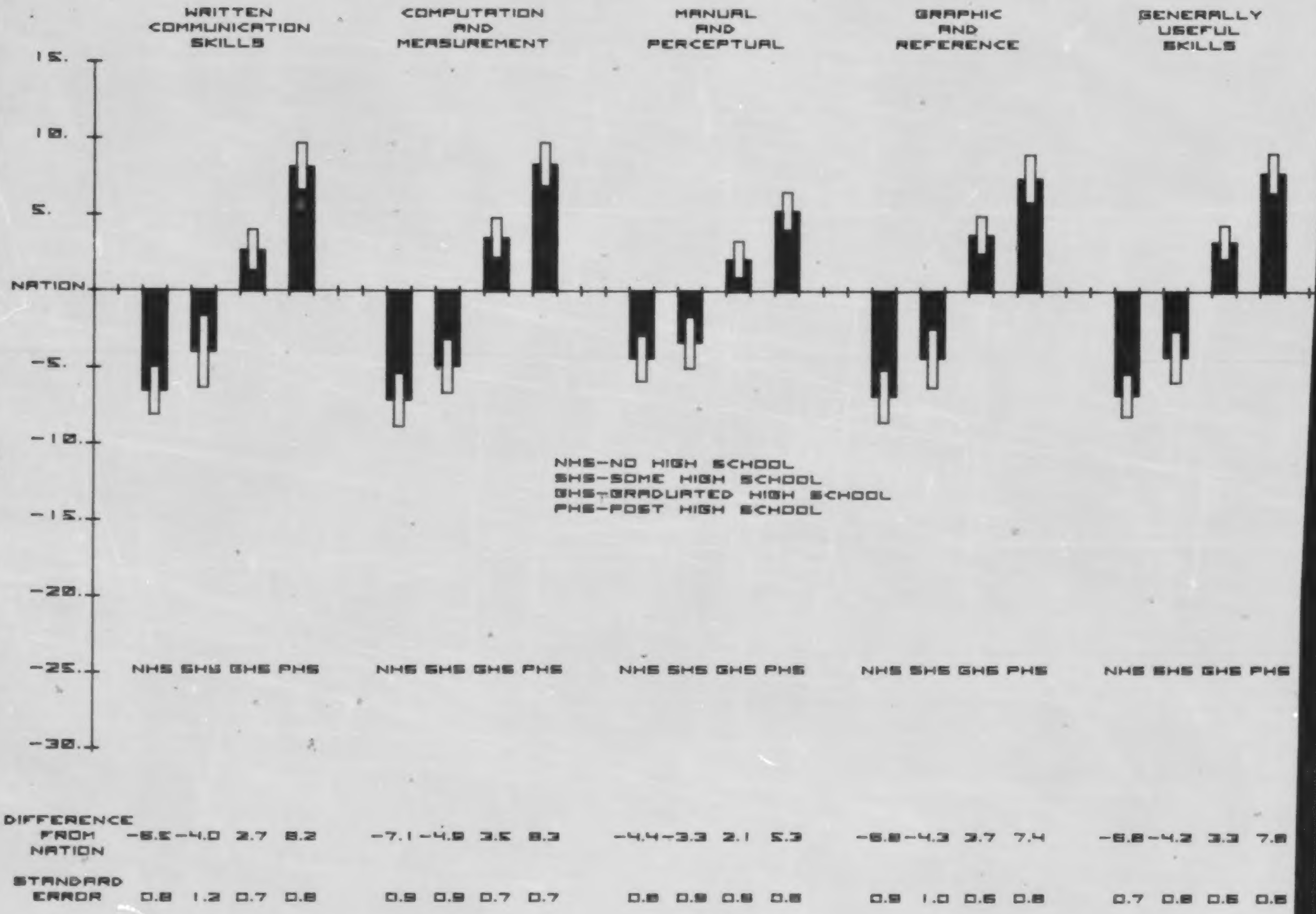
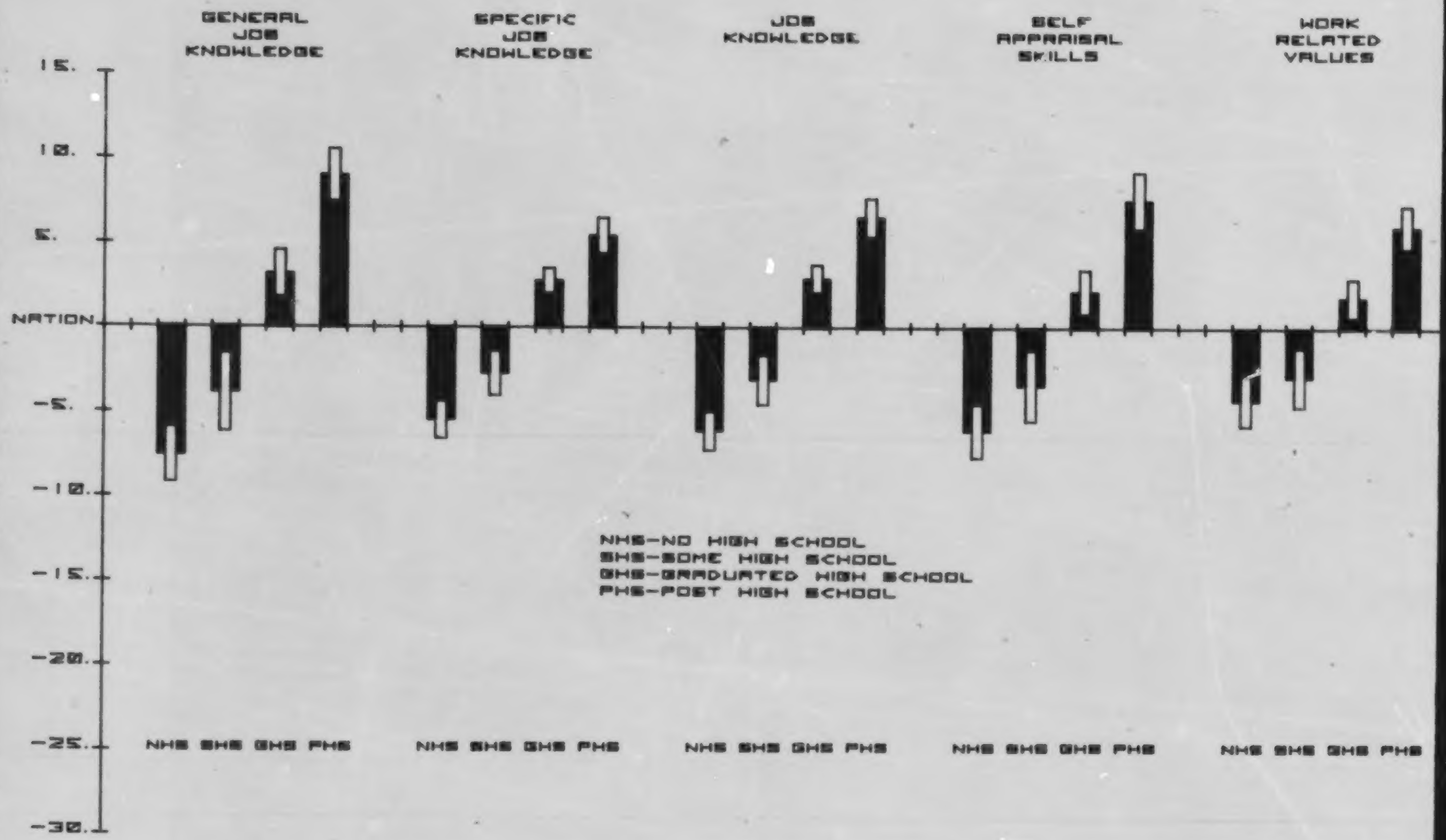


FIGURE 12 -- *Continued*



	NHS	SHS	GHS	PHS	NHS	SHS	GHS	PHS	NHS	SHS	GHS	PHS	NHS	SHS	GHS	PHS	NHS	SHS	GHS	PHS
DIFFERENCE FROM NATION	-7.5	-3.9	3.2	9.0	-5.5	-2.7	2.8	5.4	-6.1	-3.1	2.9	6.5	-6.1	-3.4	2.2	7.6	-4.2	-2.9	1.8	6.0
STANDARD ERROR	0.8	1.2	0.7	0.8	0.5	0.7	0.4	0.5	0.6	0.7	0.4	0.6	0.8	1.0	0.7	0.8	0.7	0.8	0.6	0.5

Grade-Age

Nine-year-olds who were in the third grade performed, on the average, significantly below 9-year-olds in the fourth grade on all exercise themes.

Thirteen-year-olds who were in the seventh grade performed, on the average, significantly lower than 13-year-olds in the eighth grade on all exercise themes except Work-Related Experiences. On Work-Related Experiences, there were no significant differences, in average performance, between 13-year-olds in the seventh grade and 13-year-olds in the eighth grade.

Seventeen-year-olds who were in the 10th grade were significantly below 17-year-olds in the 11th and 12th grades, in average performance, on all exercise themes. The 17-year-olds in the 12th grade were significantly higher than those in the 11th grade, in average performance, on all exercise themes except Manual and Perceptual Skills, Self-Appraisal Skills and Work-Related Values. On these exercise themes, the two grades were not significantly different.

Figures 13 through 15 show the average performance differences between the grade-age groups and the nation for the various exercise themes at ages 9, 13 and 17 in school. Observed differences between the average performances of grade-age groups are also reflected in these figures for the exercise themes at these ages. Estimates of the pair-wise probabilities of the observed pair-wise group differences, under the assumption of no pair-wise group differences, are given in Appendix A.

FIGURE 13. Delta-P Values for Grade-Age, Age 9

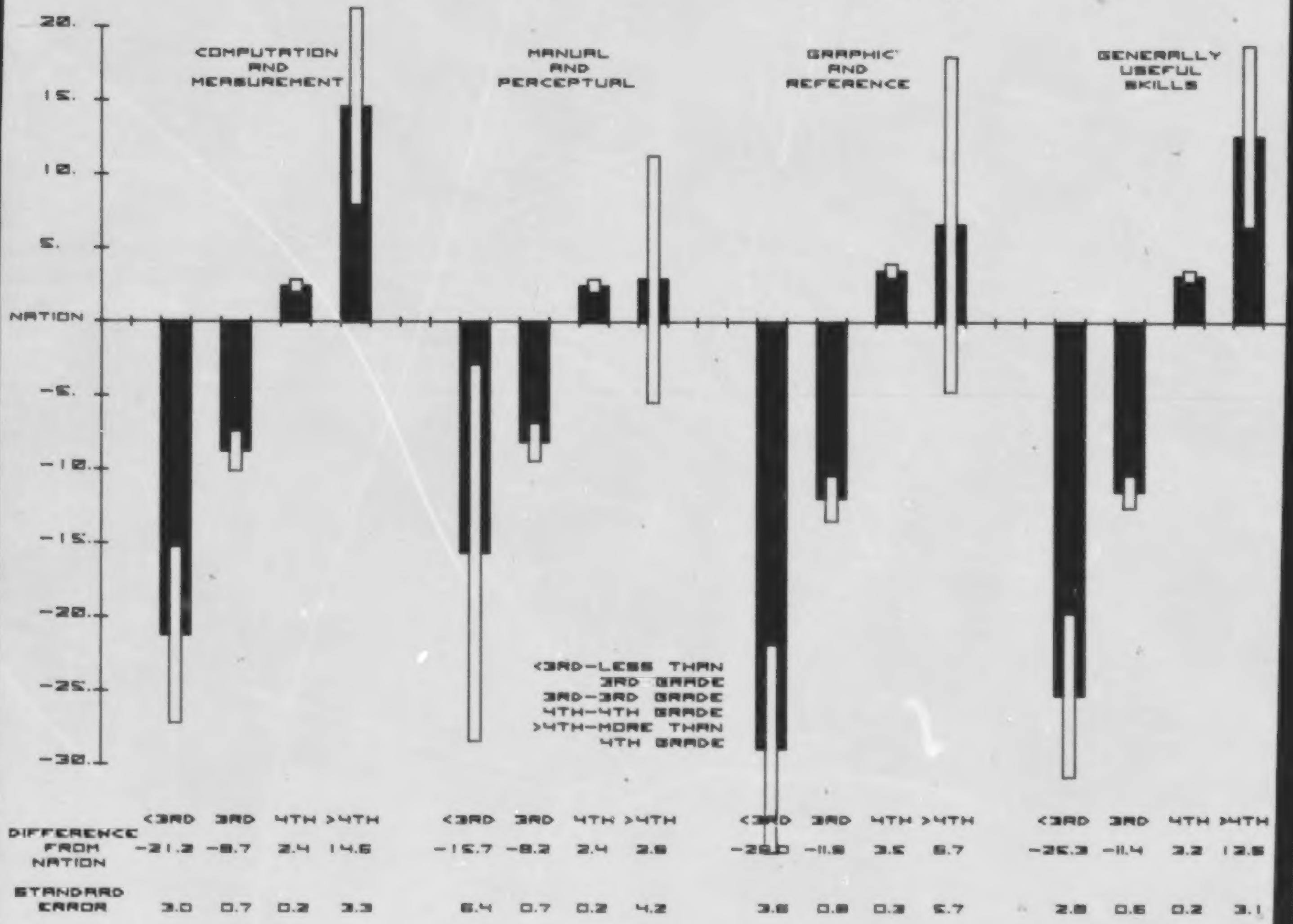


FIGURE 13 -- *Continued*

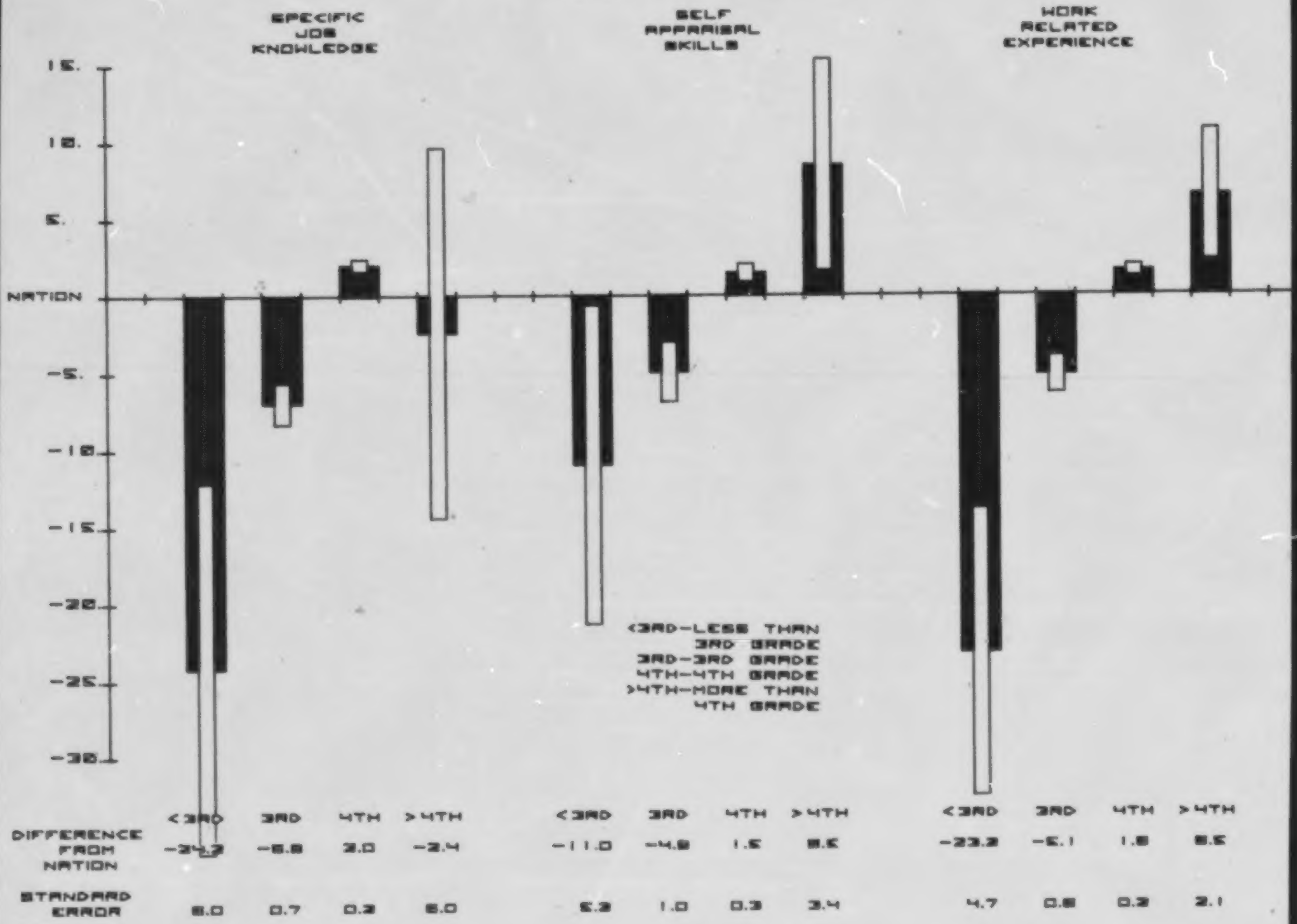


FIGURE 14. Delta-P Values for Grade-Age, Age 13

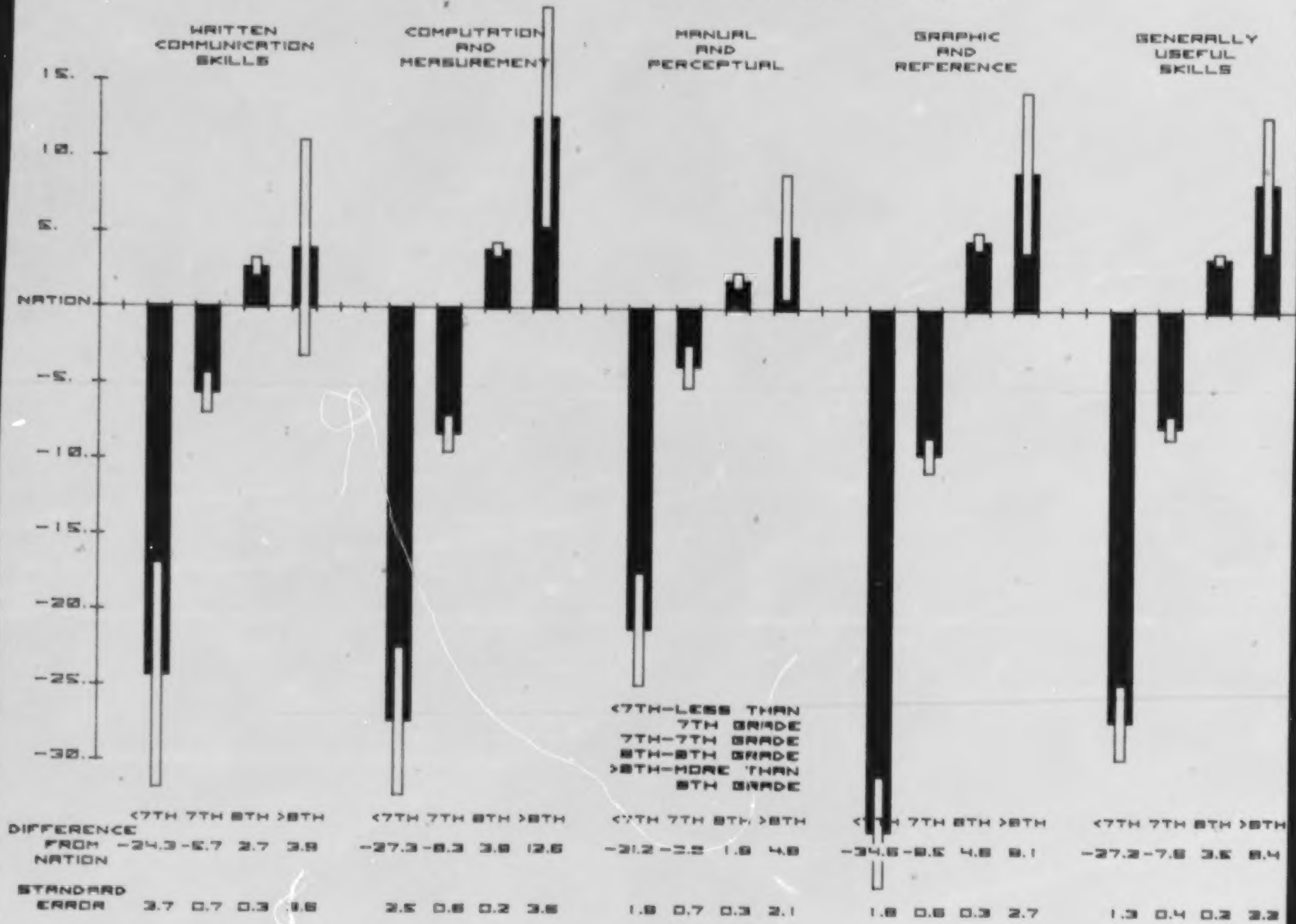


FIGURE 14 -- *Continued*

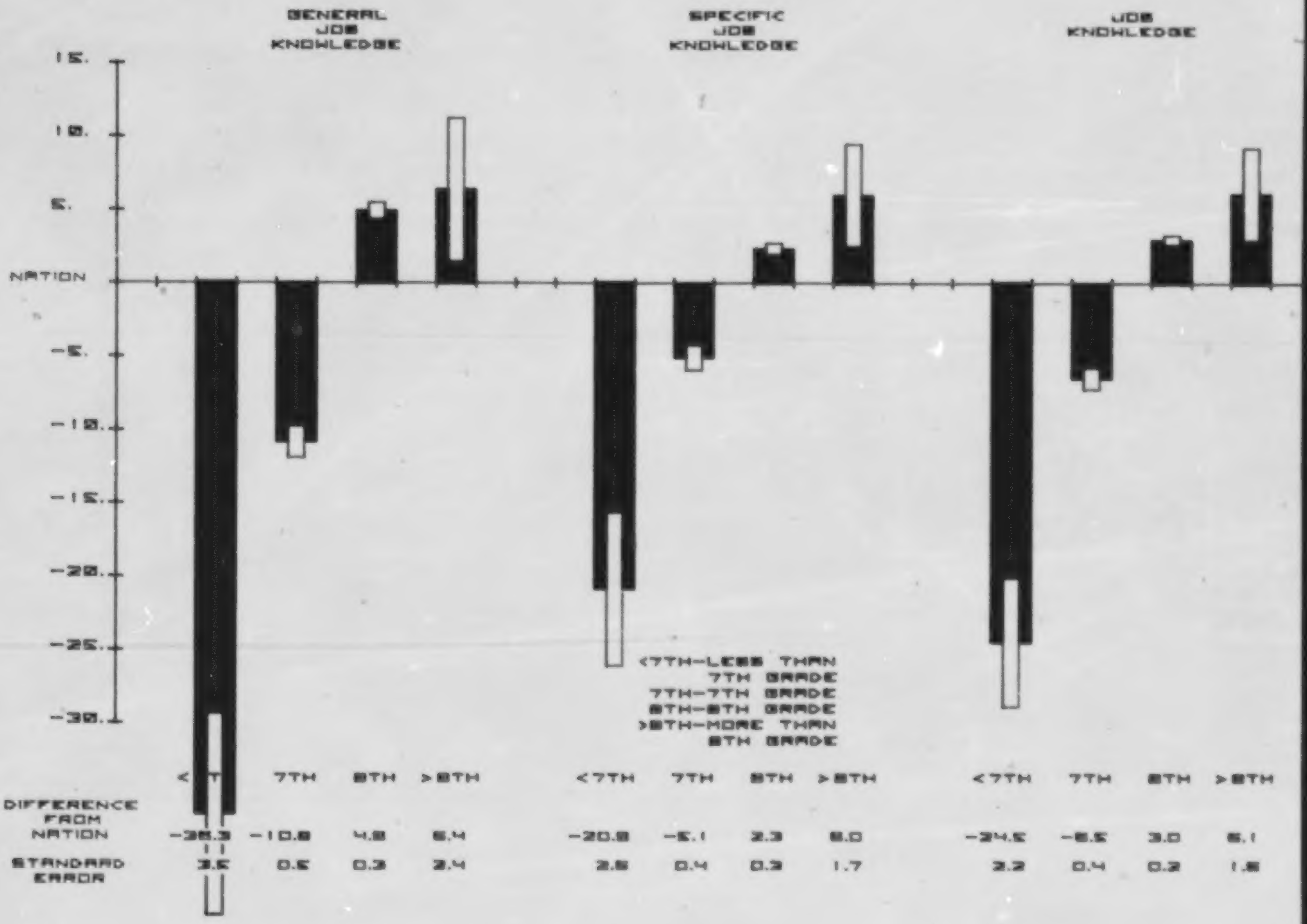


FIGURE 14 -- *Continued*

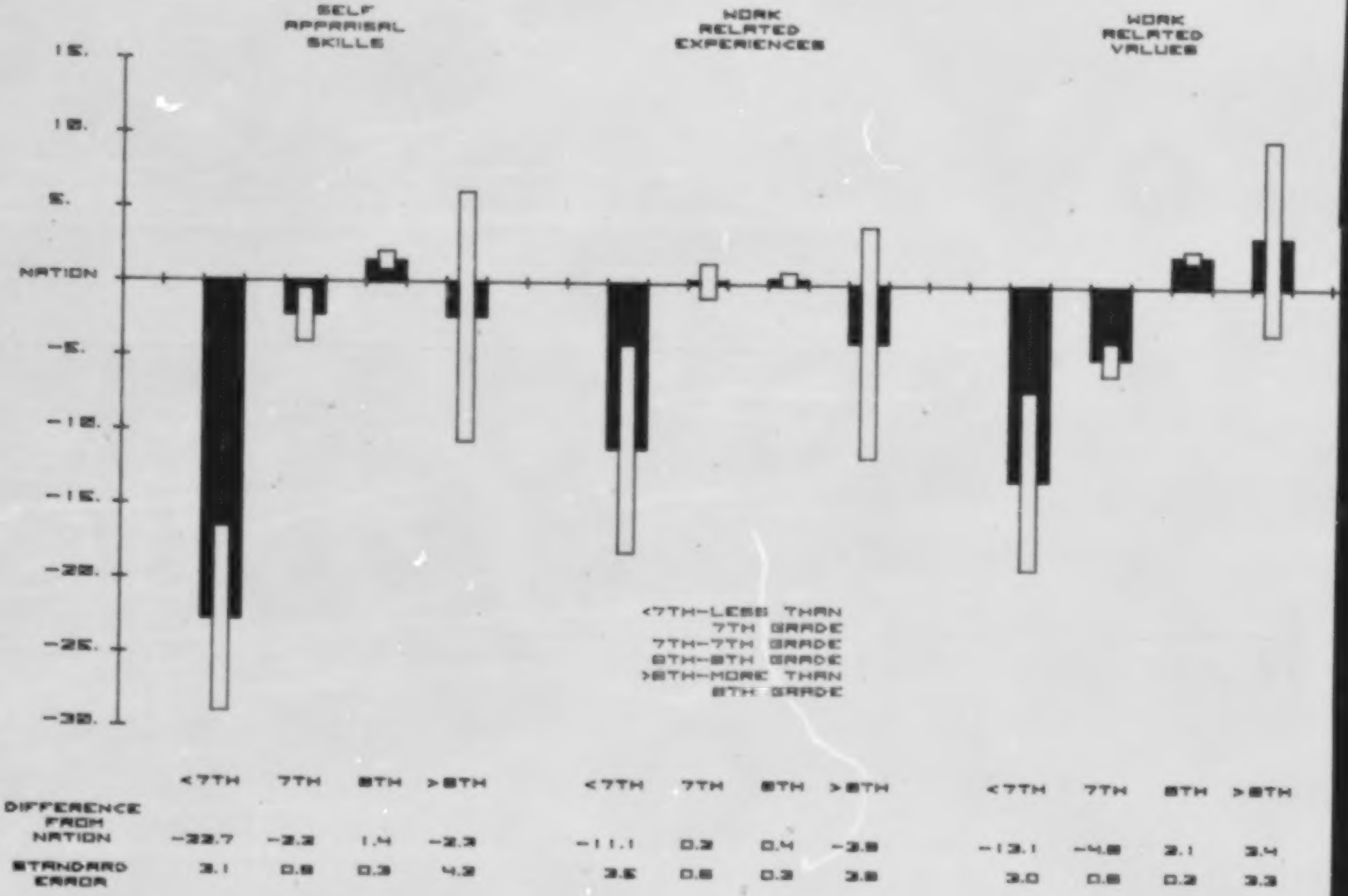
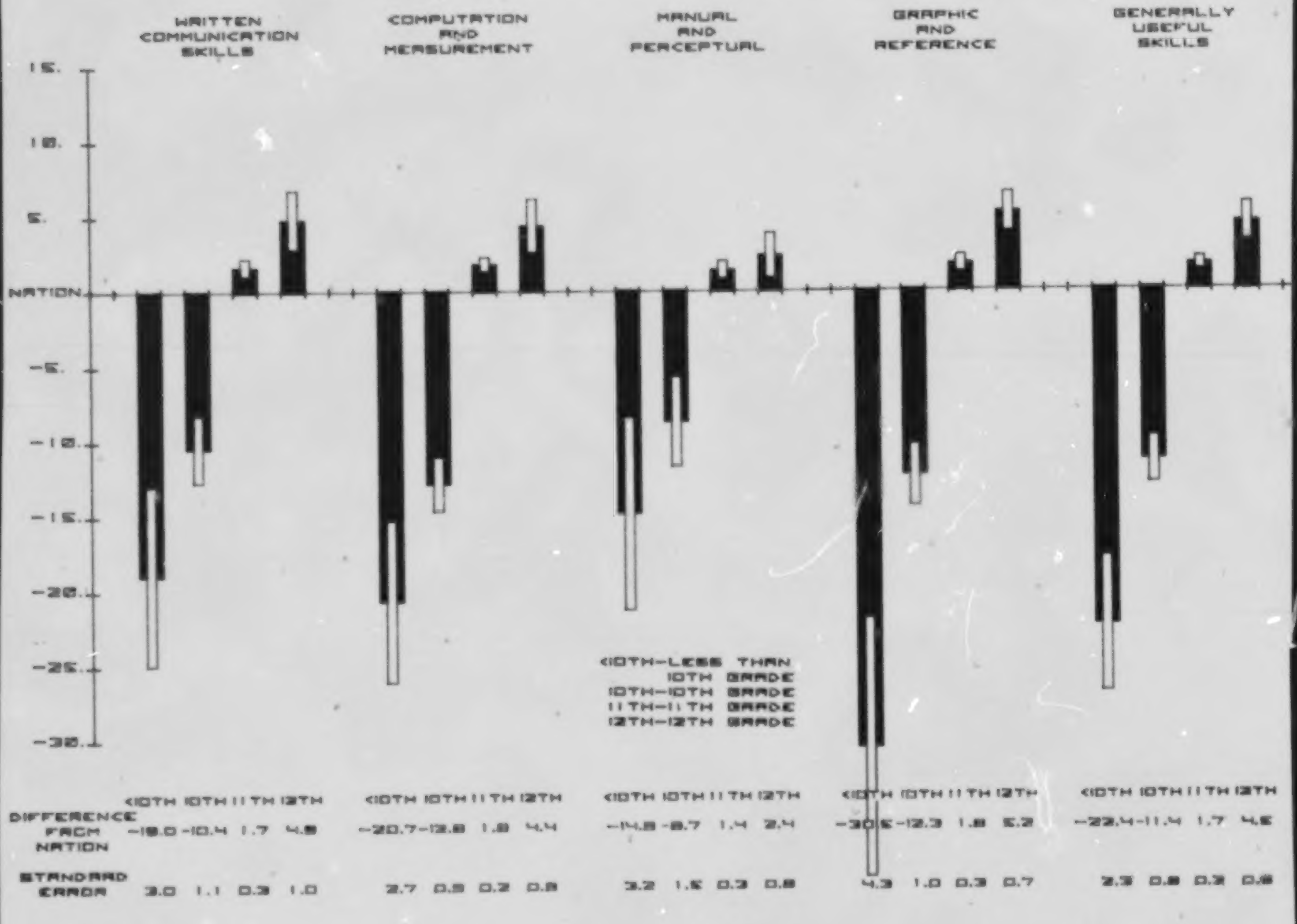
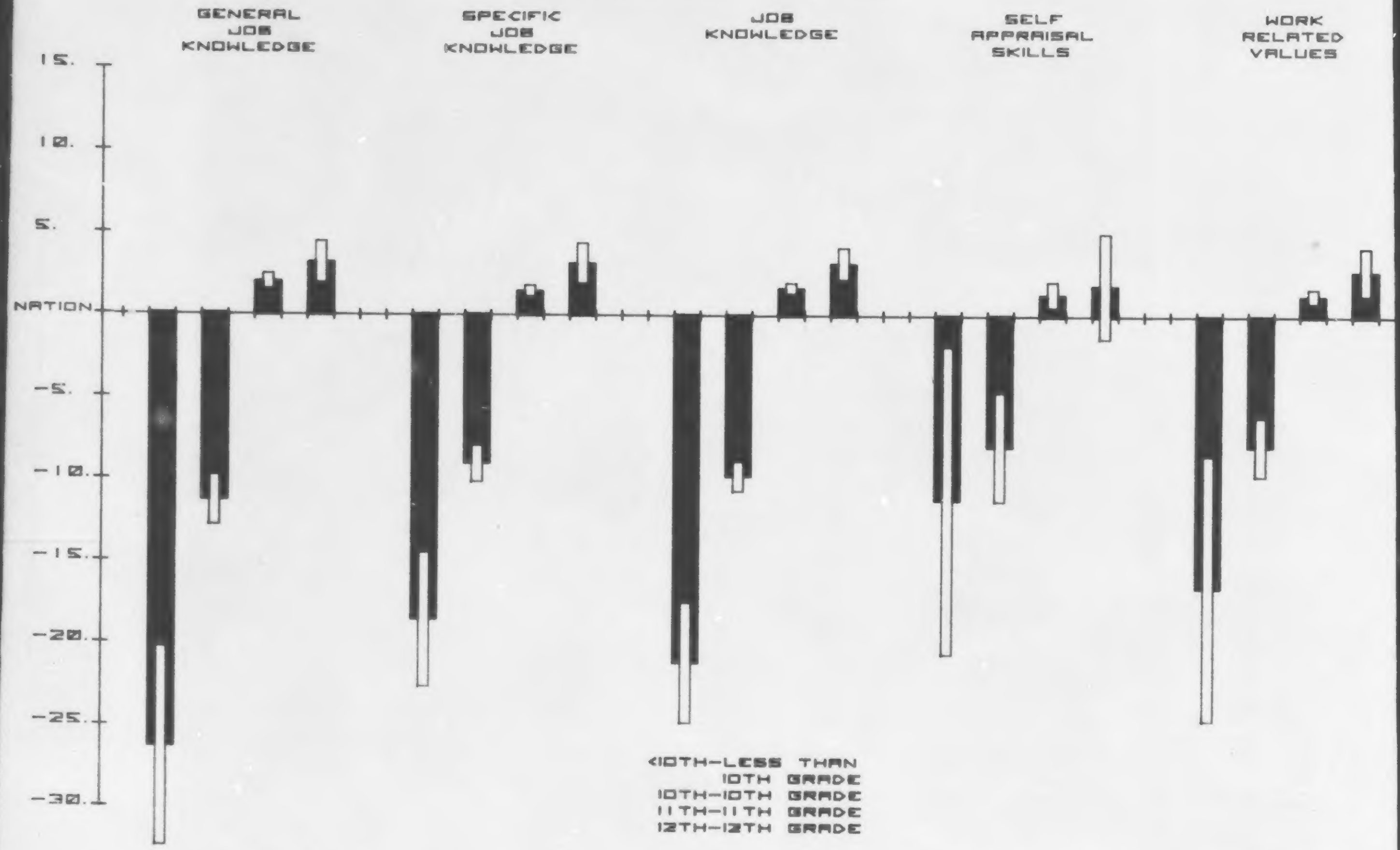


FIGURE 15. Delta-P Values for Grade-Age, Age 17 In School



	<10TH	10TH	11TH	12TH	<10TH	10TH	11TH	12TH	<10TH	10TH	11TH	12TH	<10TH	10TH	11TH	12TH	<10TH	10TH	11TH	12TH
DIFFERENCE FROM NATION	-19.0	-10.4	1.7	4.8	-20.7	-12.8	1.8	4.4	-14.8	-8.7	1.4	2.4	-30.5	-12.3	1.8	5.2	-22.4	-11.4	1.7	4.5
STANDARD ERROR	3.0	1.1	0.3	1.0	2.7	0.9	0.2	0.8	3.2	1.5	0.3	0.8	4.3	1.0	0.3	0.7	2.3	0.8	0.2	0.8

FIGURE 15 -- *Continued*



	<10TH	10TH	11TH	12TH	<10TH	10TH	11TH	12TH	<10TH	10TH	11TH	12TH	<10TH	10TH	11TH	12TH	<10TH	10TH	11TH	12TH
DIFFERENCE FROM NATION	-26.3	-11.3	2.0	3.2	-18.8	-9.1	1.5	3.2	-21.2	-9.8	1.7	3.2	-11.3	-8.0	1.3	1.8	-16.6	-7.9	1.3	2.8
STANDARD ERROR	3.0	0.8	0.2	0.6	2.0	0.8	0.2	0.8	1.8	0.5	0.2	0.5	4.7	1.7	0.4	1.8	4.1	0.9	0.2	0.7

Own Education

Adults with less than 10th-grade educations and those with some high school were significantly below the nation, in average performance, on all exercise themes. Those who had graduated from high school, but had not attended vocational school, were not significantly different from the nation, in average performance, except for Self-Appraisal Skills. On this exercise theme, their average performance was significantly below that of the nation as a whole.

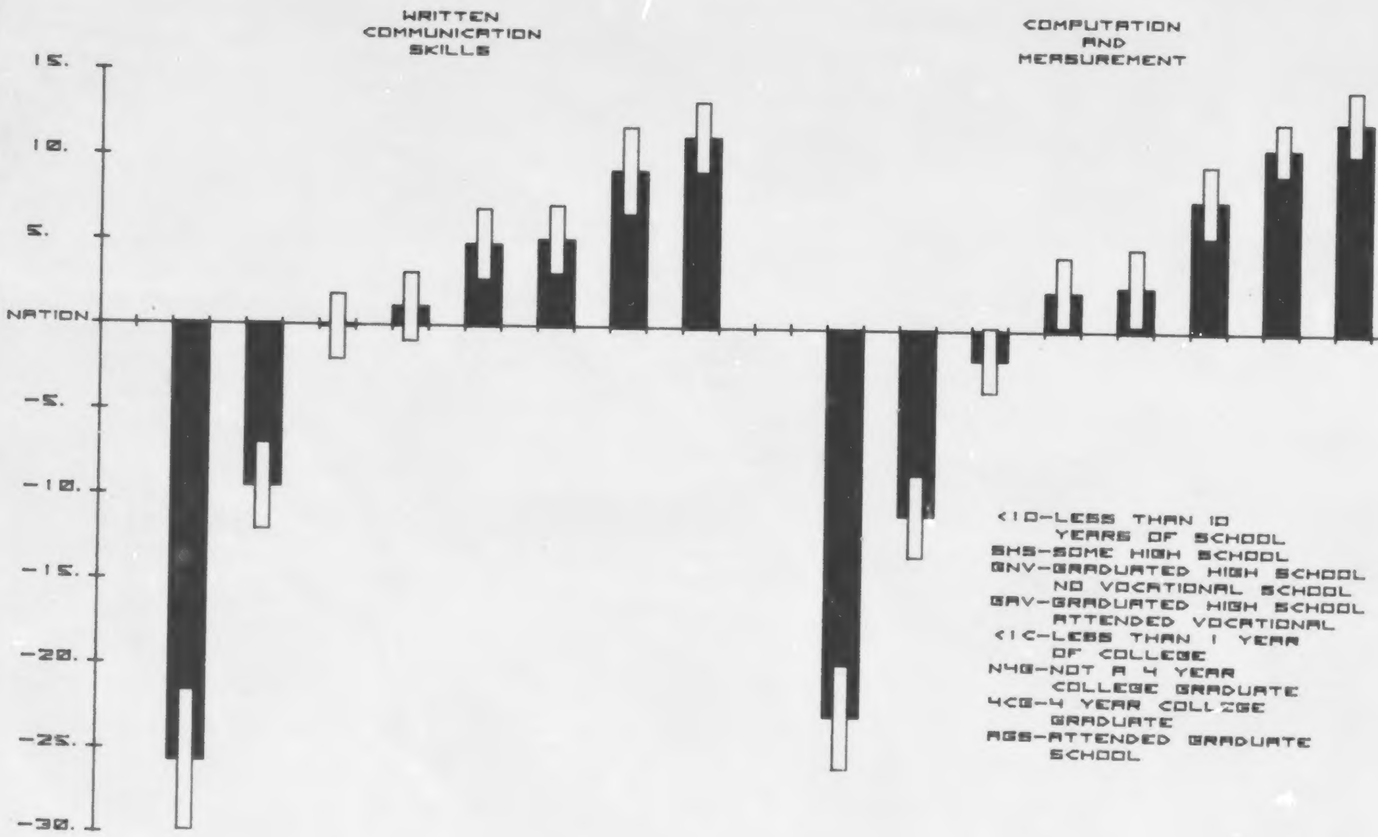
Adults who attended a vocational school, after high school graduation, were significantly above the nation, in average performance, on Computation and Measurement, Generally Useful Skills, Specific Job Knowledge and Job Knowledge exercise themes. They did not differ significantly from the nation, in average performance, on the remaining exercise themes.

Adults who had attended college for one year or less had average performances, which were significantly above those of the nation, on all exercise themes except Manual/Perceptual Skills. Their average performance on this theme was not significantly different from the average performance of the nation as a whole.

Adults who had attended more than one year of college but were not four-year college graduates, four-year college graduates and persons who had attended graduate schools were all significantly above the nation, in average performance, for all adult exercise themes.

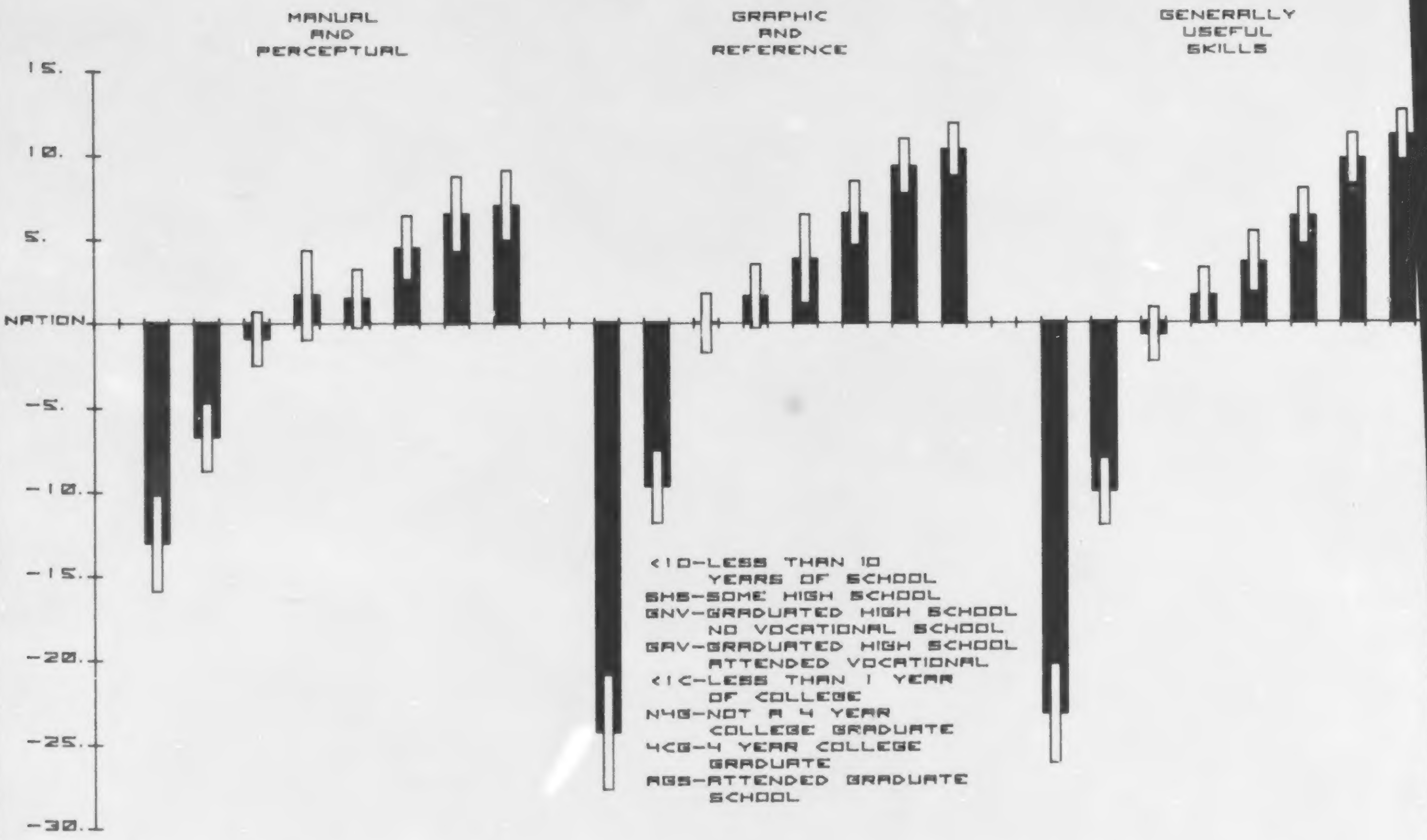
Figure 16 shows the average performance differences between the own-education groups and the nation for the various adult exercise themes. Observed differences between average performances of own-education groups are also reflected in these figures for the adult exercise themes. Estimates of the probabilities of the observed pair-wise group differences, under the assumption of no pair-wise group differences, are given in Appendix A.

FIGURE 16. Delta-P Values for Own Education, Adults



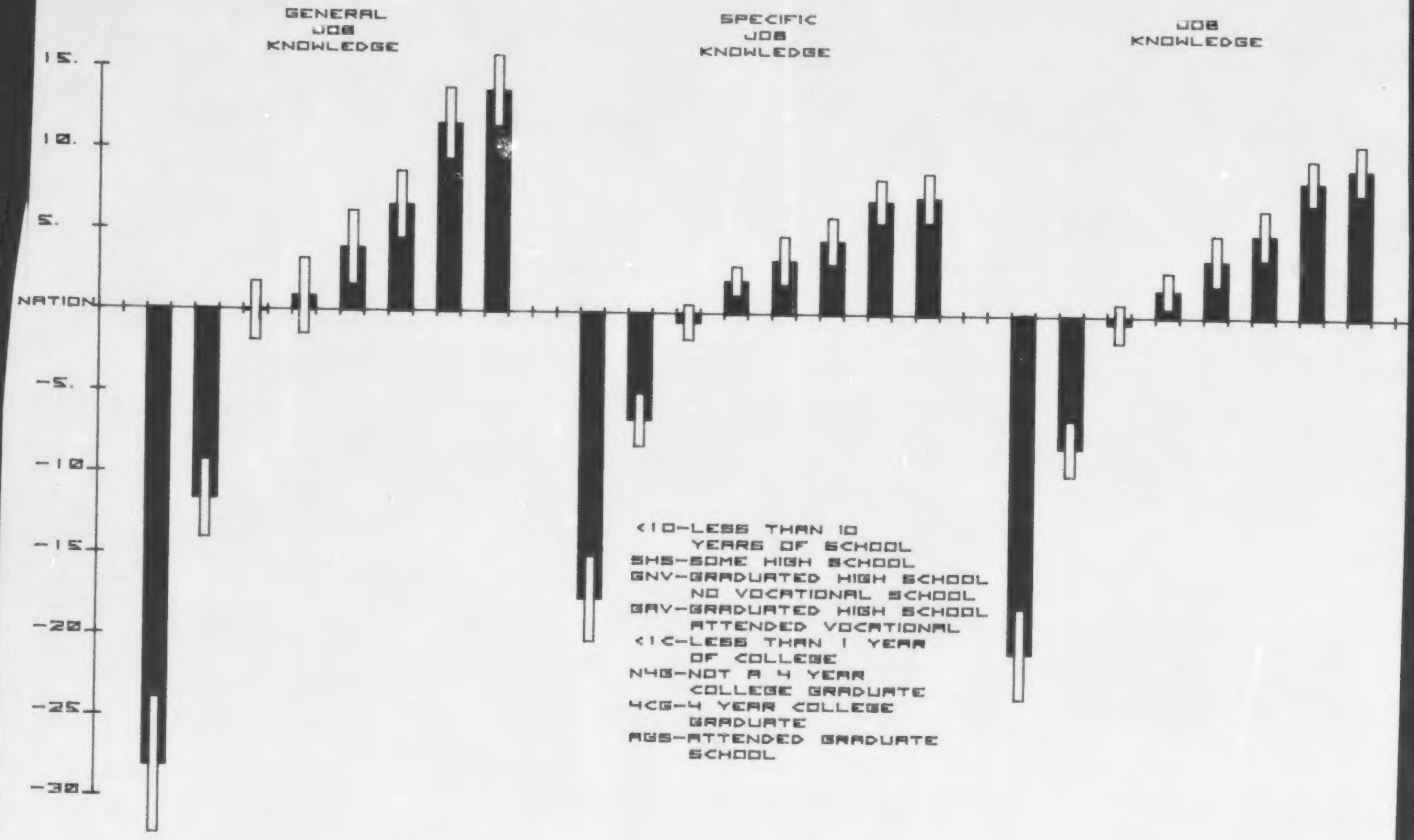
	<10	SHS	GNV	GAV	<1C	N4G	4CG	AGS	<10	SHS	GNV	GAV	<1C	N4G	4CG	AGS
DIFFERENCE FROM NATION	-25.7	-9.5	-0.1	1.1	4.8	5.1	9.2	11.2	-22.8	-10.9	-1.7	2.3	2.6	7.7	10.8	12.4
STANDARD ERROR	2.1	1.3	1.0	1.0	1.0	1.0	1.3	1.0	1.5	1.2	0.9	1.0	1.2	1.1	0.8	1.0

FIGURE 16 -- *Continued*



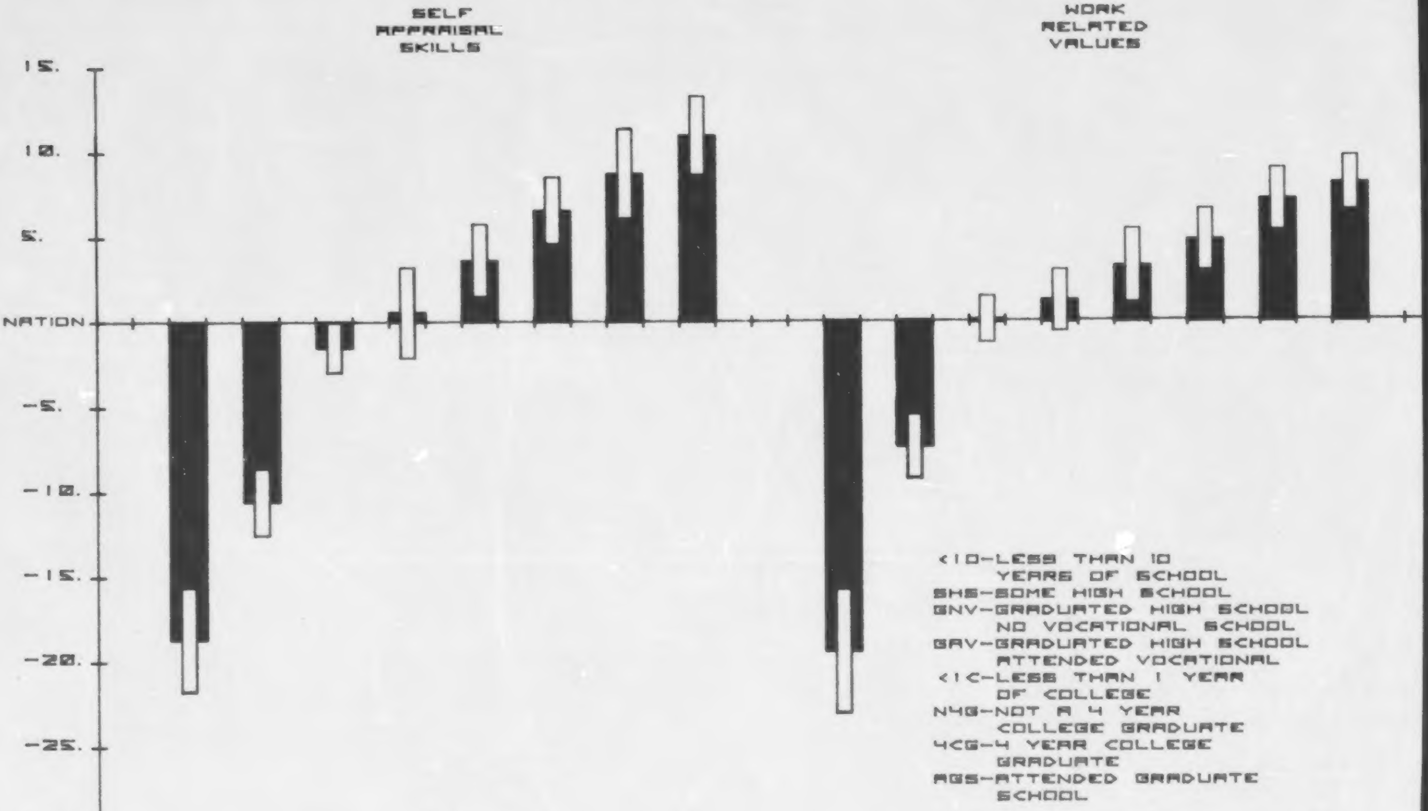
	<10	SHS	GNV	GAV	<1C	N4G	4CG	AGS	<10	SHS	GNV	GAV	<1C	N4G	4CG	AGS	<10	SHS	GNV	GAV	<1C	N4G	4CG	AGS
DIFFERENCE FROM NATION	-13.0	-6.7	-0.8	1.7	1.5	4.5	6.5	7.0	-24.3	-9.7	0.0	1.8	3.9	6.5	9.3	10.3	-23.2	-10.0	-0.7	1.8	3.8	6.3	9.7	11.1
STANDARD ERROR	1.4	1.0	0.8	1.3	0.9	1.0	1.1	1.0	1.7	1.1	0.8	0.8	1.3	1.0	0.8	0.8	1.5	1.0	0.8	0.8	0.9	0.8	0.8	0.7

FIGURE 16 -- *Continued*



	<10	SHS	GNV	GAV	<1C	N4G	4CG	AGS	<10	SHS	GNV	GAV	<1C	N4G	4CG	AGS	<10	SHS	GNV	GAV	<1C	N4G	4CG	AGS
DIFFERENCE FROM NATION	-28.1	-11.8	-0.1	0.8	3.8	6.5	11.6	13.6	-17.8	-6.5	-0.5	2.0	3.3	4.5	7.0	7.2	-20.8	-8.1	-0.4	1.6	3.5	5.1	8.4	9.1
STANDARD ERROR	2.1	1.2	0.9	1.2	1.1	1.0	1.1	1.1	1.3	0.8	0.5	0.5	0.7	0.7	0.7	0.8	1.4	0.8	0.8	0.8	0.8	0.8	0.7	0.8

FIGURE 16 -- *Continued*



	<10	SHS	GNV	GAV	<1C	N4G	4CG	AGS	<10	SHS	GNV	GAV	<1C	N4G	4CG	AGS
DIFFERENCE FROM NATION	-18.6	-10.6	-1.5	0.6	3.6	6.6	8.7	10.8	-19.4	-7.3	0.2	1.3	3.3	4.8	7.2	8.2
STANDARD ERROR	1.5	1.0	0.7	1.3	1.1	1.0	1.3	1.2	1.8	1.0	0.7	0.9	1.1	0.9	0.9	0.8

Continuing Education

Adults who had no continuing education performed, on the average, significantly lower than did the nation on all exercise themes. Adults, with no job-related continuing education, had average performances that were significantly higher than the nation on all but two of the exercise themes. On the Manual/Perceptual and General Job Knowledge exercise themes, their average performance was not significantly different from that of the nation. Adults who had some kind of job-related continuing education had significantly higher average performance on all exercise themes than the nation as a whole.

Figure 17 shows the average performance differences between the continuing-education groups and the nation for the adult exercise themes. Observed differences between average performances of the continuing-education groups are also reflected in the figures for the adult exercise themes. Estimates of the pair-wise probabilities of the observed pair-wise group differences, under the assumption of no pair-wise group differences, are given in Appendix A.

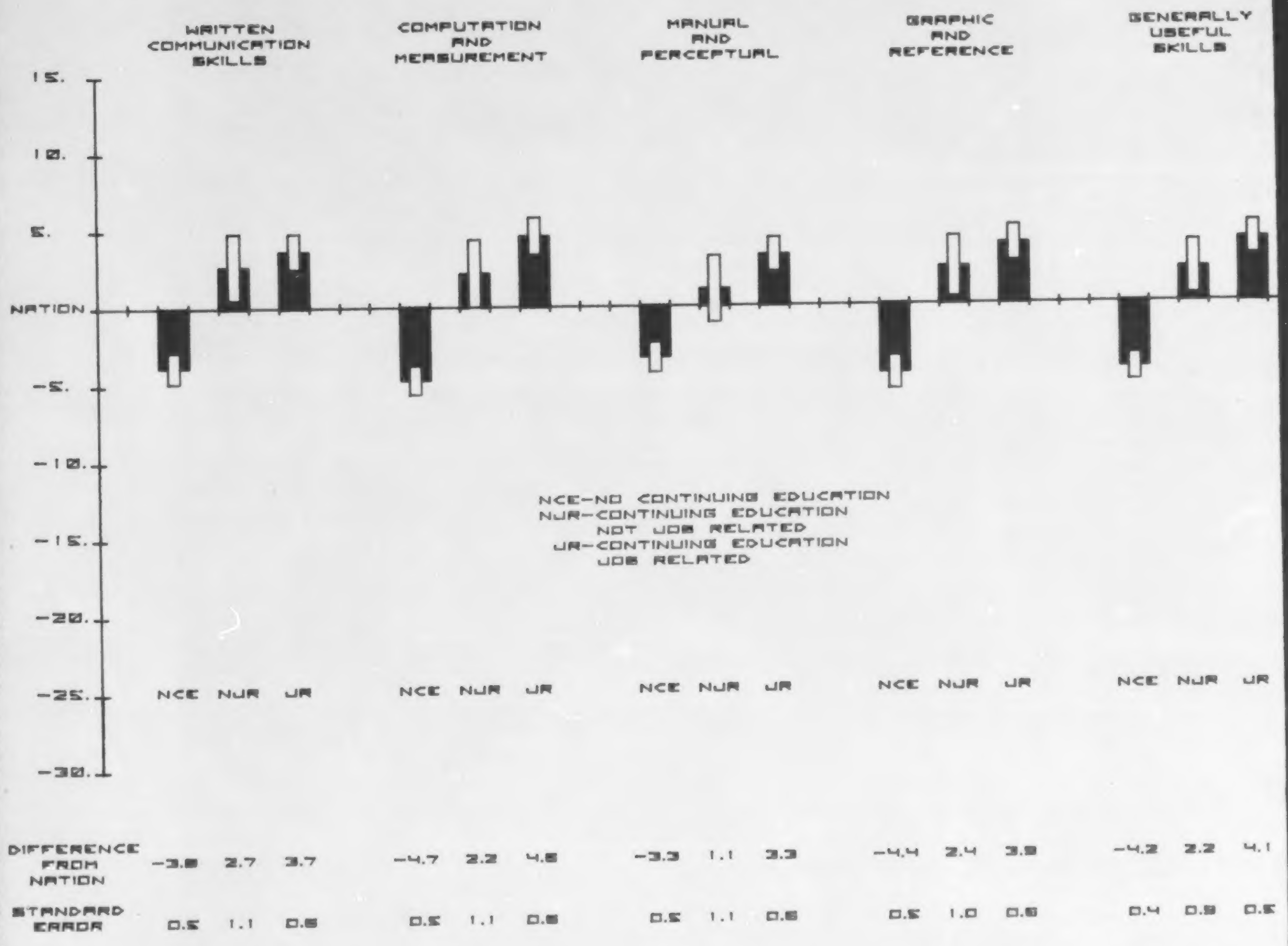
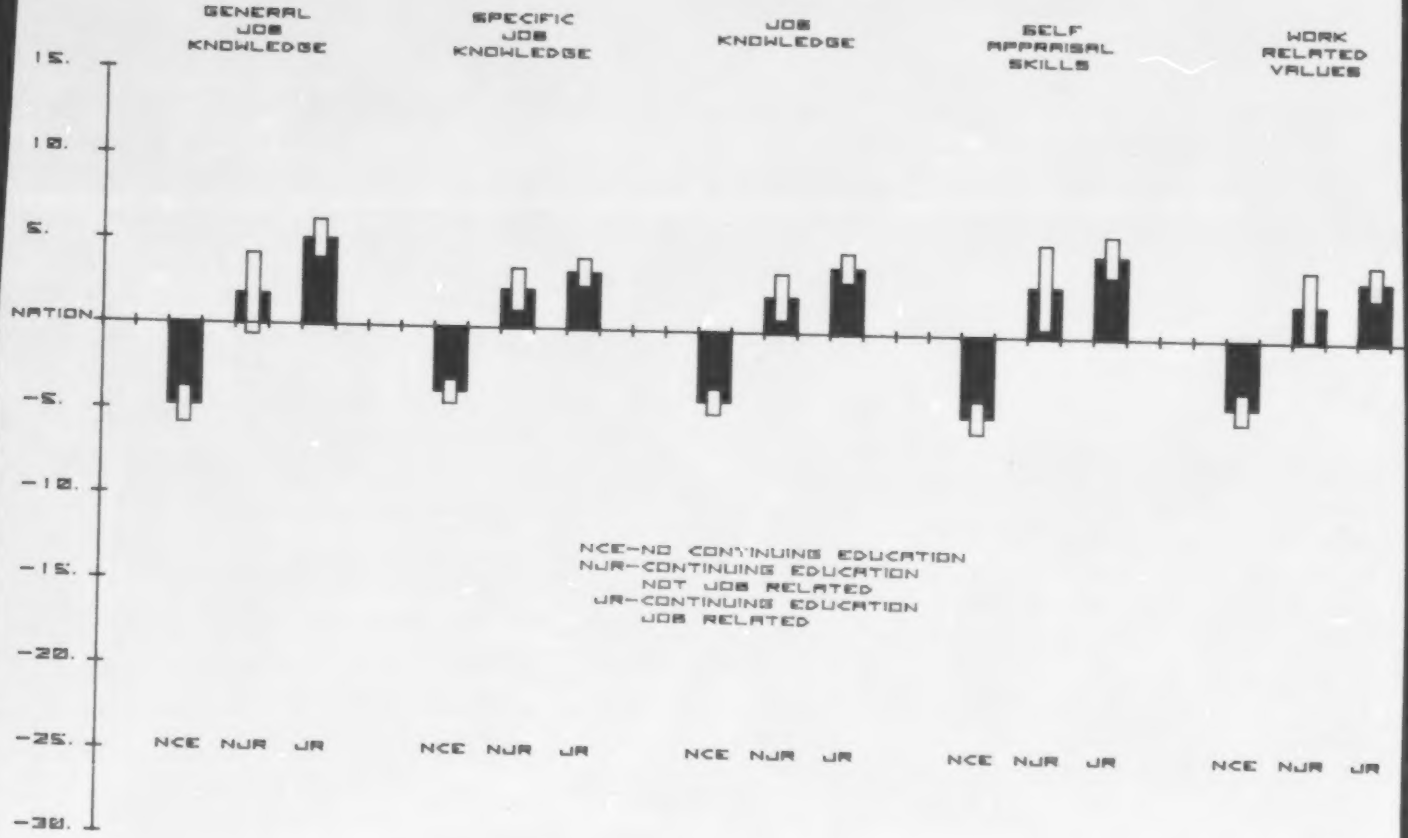


FIGURE 17. Delta-P Values for Continuing Education, Adults

FIGURE 17 -- *Continued*



	NCE	NJR	JR	NCE	NJR	JR	NCE	NJR	JR	NCE	NJR	JR	NCE	NJR	JR
DIFFERENCE FROM NATION	-4.8	1.8	5.1	-3.8	2.3	3.3	-4.1	2.1	3.9	-4.7	3.0	4.8	-3.9	2.1	3.6
STANDARD ERROR	0.5	1.2	0.6	0.4	0.8	0.4	0.4	0.7	0.4	0.5	1.3	0.6	0.5	1.0	0.5

CHAPTER 4

SEX, RACE AND SOCIOECONOMIC VARIABLES

The variables called sex, race, home environment and family income are discussed in this chapter. Family-income data is only available for young adults.

Sex

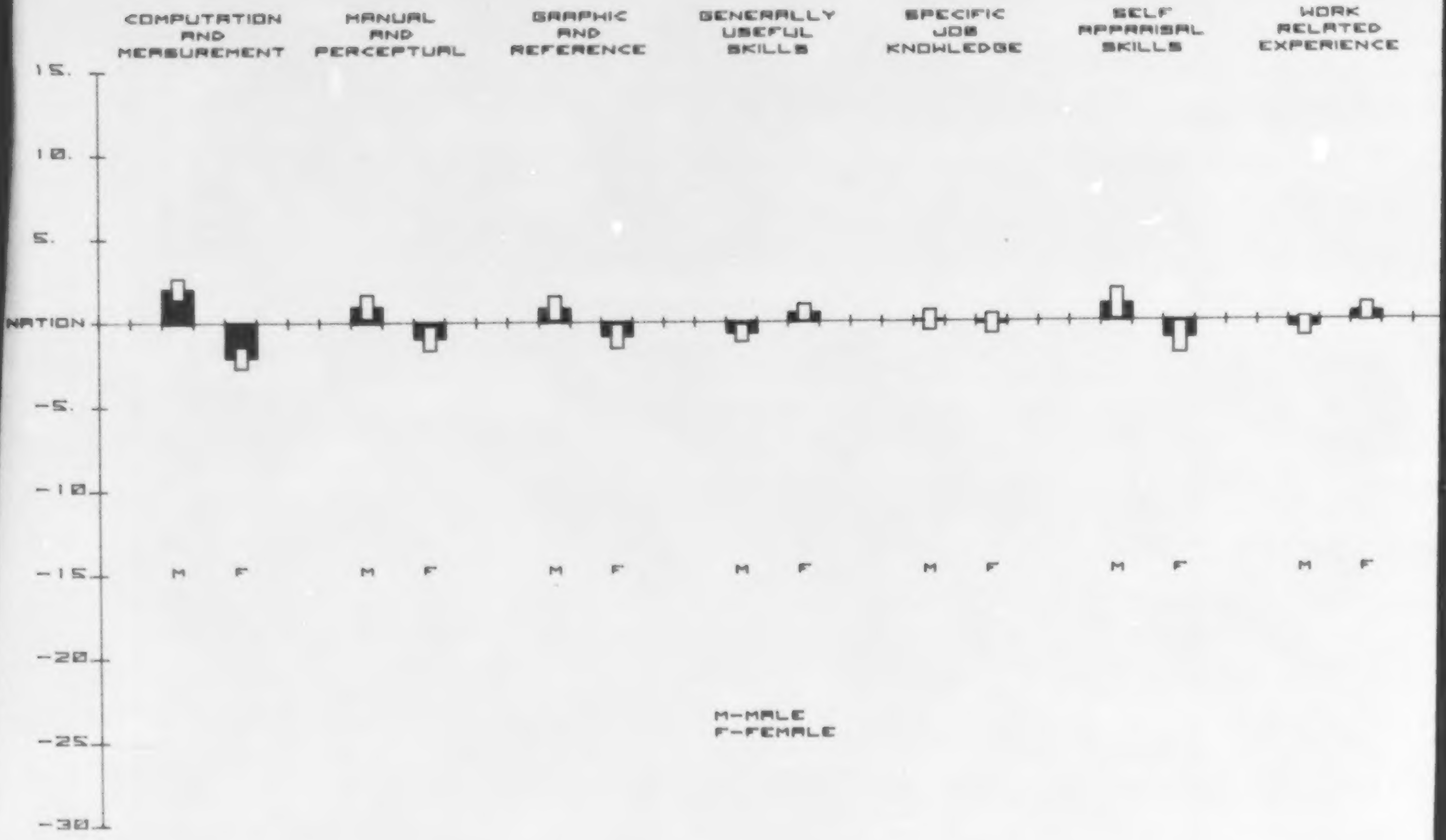
At age 9, average male and female performances were significantly different only on the Computation and Measurement theme; males had the advantage. At age 13, average male and female performances were not significantly different for the exercise themes called Graphic and Reference, Generally Useful Skills, Specific Job Knowledge and Self-Appraisal Skills. Females had significantly higher performances on exercise themes called Written Communication Skills, General Job Knowledge, Job Knowledge and Work-Related Values. Males had significantly higher performances on exercise themes called Computation and Measurement, Manual/Perceptual and Work-Related Experiences.

At age 17, average male and female performances were not significantly different for the Graphic and Reference and Generally Useful Skills exercise themes. Females had significantly higher performances on the Written Communication Skills, General Job Knowledge, Job Knowledge and Work-Related Values exercise themes. The themes on which males had significantly higher performances were Computation and Measurement, Manual and Perceptual, Specific Job Knowledge and Self-Appraisal Skills.

Young adult males and females were not significantly different in average performances on the Graphic and Reference, Generally Useful Skills and Self-Appraisal Skills exercise themes. Females had significantly higher performances on the Written Communication Skills, General Job Knowledge and Work-Related Values exercise themes. Males had significantly higher performance on the Computation and Measurement, Manual and Perceptual, Specific Job Knowledge and Job Knowledge exercise themes.

Figures 18 through 21 show the average performance differences between females or males and the nation for the various exercise themes at all four ages. Observed differences between females and males are also reflected in the figures for the exercise themes and ages. Estimates of the probabilities of the observed sex-performance differences, under the assumption of no sex-performance differences, are given in Appendix A.

FIGURE 18. Delta-P Values for Sex, Age 9



	M	F	M	F	M	F	M	F	M	F	M	F	M	F
DIFFERENCE FROM NATION	2.0	-2.0	0.9	-0.9	0.8	-0.8	-0.7	0.5	0.1	-0.1	1.0	-1.0	-0.4	0.5
STANDARD ERROR	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.5	0.5	0.3	0.3

FIGURE 19. Delta-P Values for Sex, Age 13

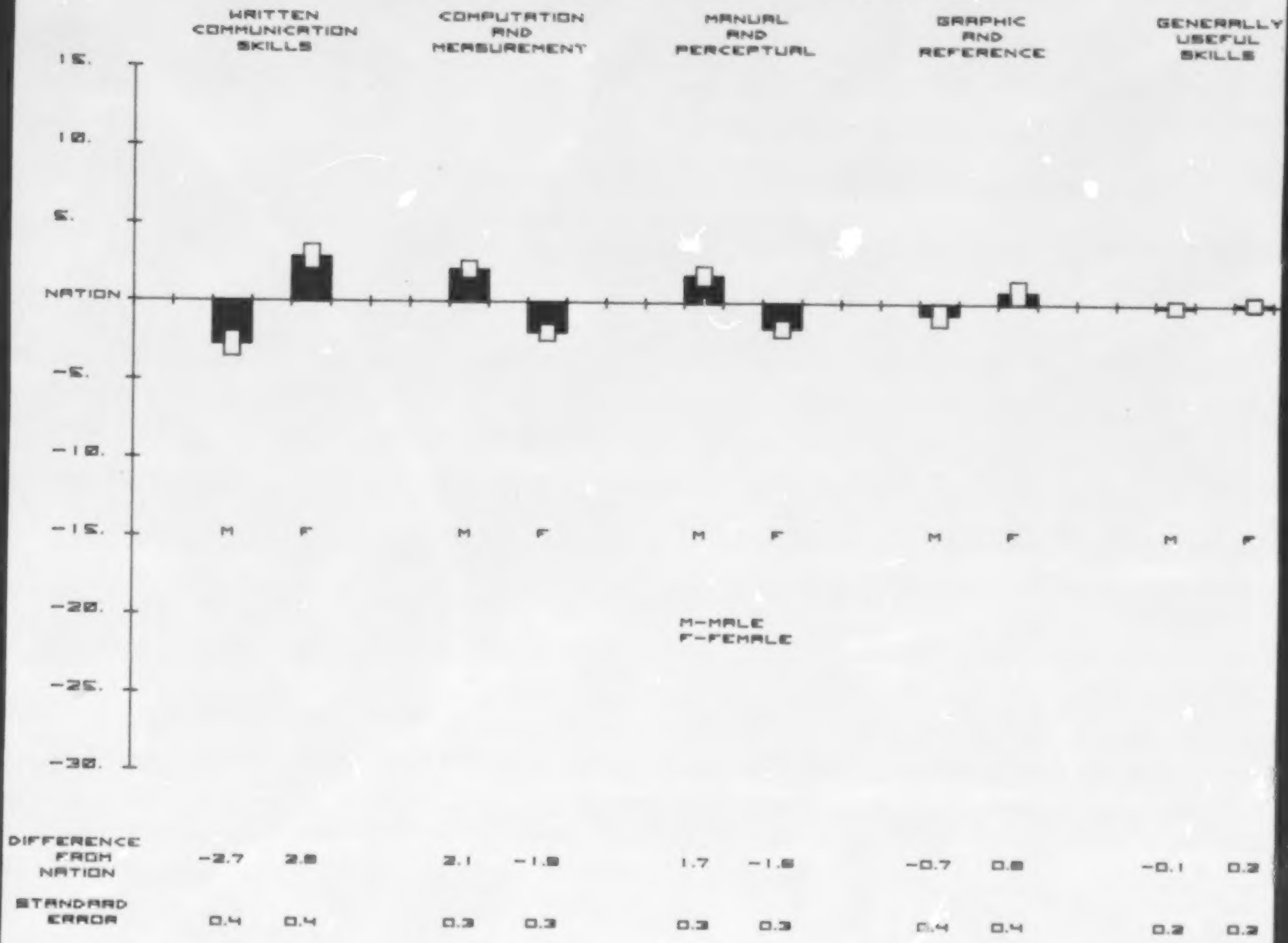
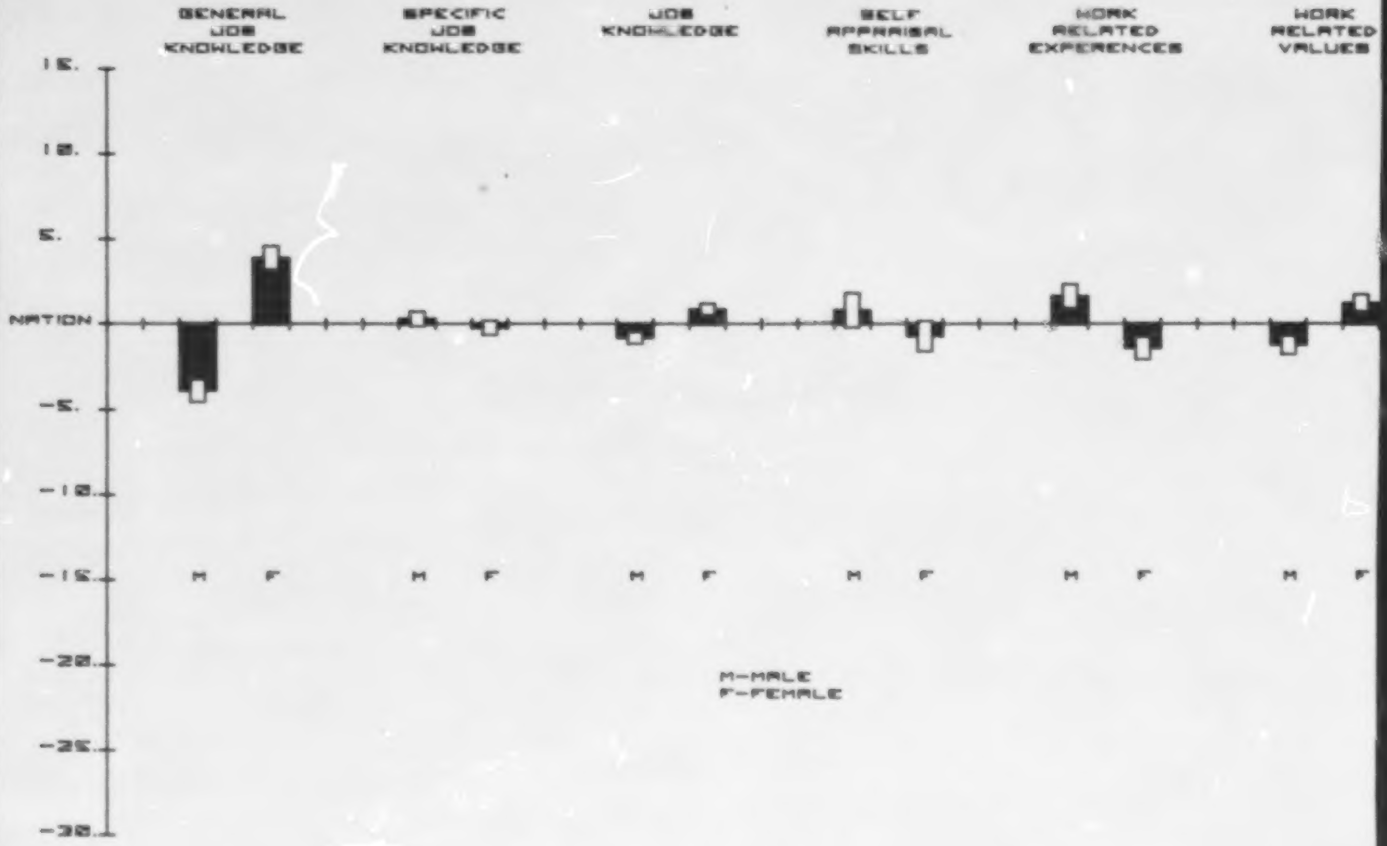
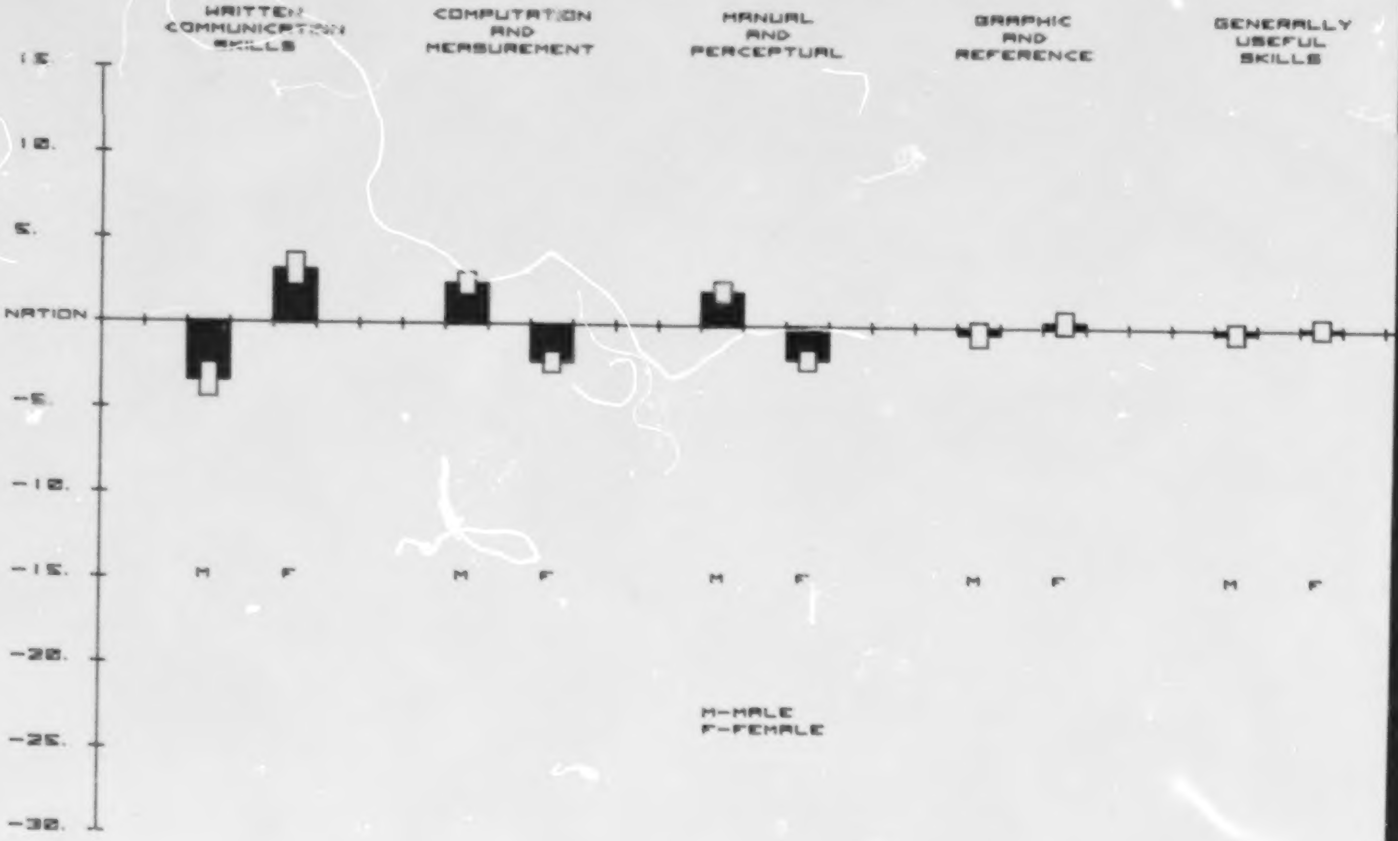


FIGURE 19 -- *Continued*



DIFFERENCE FROM NATION	-3.8	3.8	0.3	-0.2	-0.8	0.8	0.8	-0.7	1.6	-1.4	-1.2	1.2
STANDARD ERROR	0.3	0.3	0.2	0.2	0.2	0.2	0.5	0.4	0.4	0.3	0.3	0.3

FIGURE 20. Delta-P Values for Sex, All Age 17



DIFFERENCE FROM NATION	-3.4	3.2	2.4	-2.2	2.0	-1.8	-0.4	0.3	-0.2	0.1
STANDARD ERROR	0.5	0.5	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3

FIGURE 20 -- *Continued*

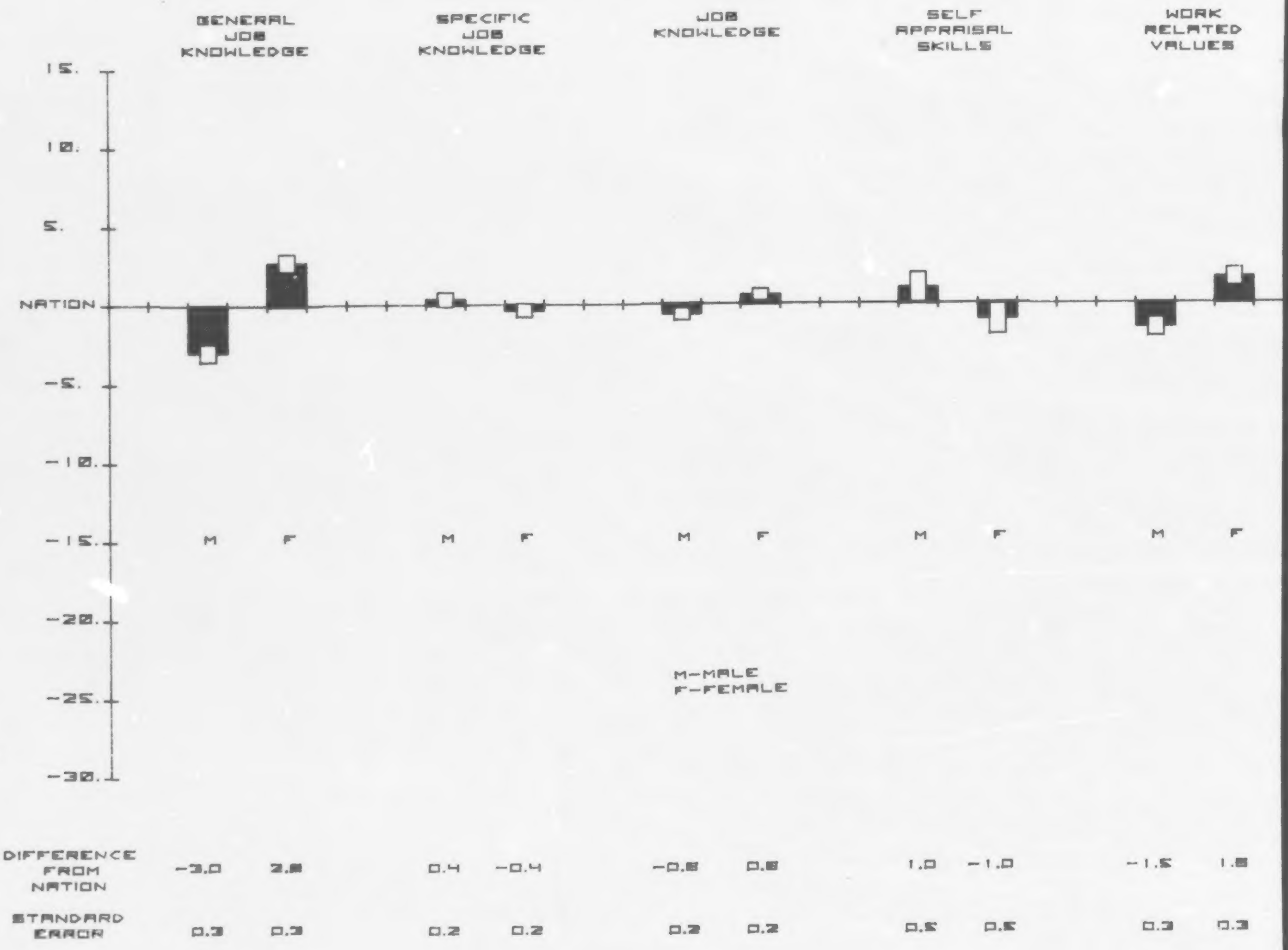


FIGURE 21. Delta-P Values for Sex, Adults

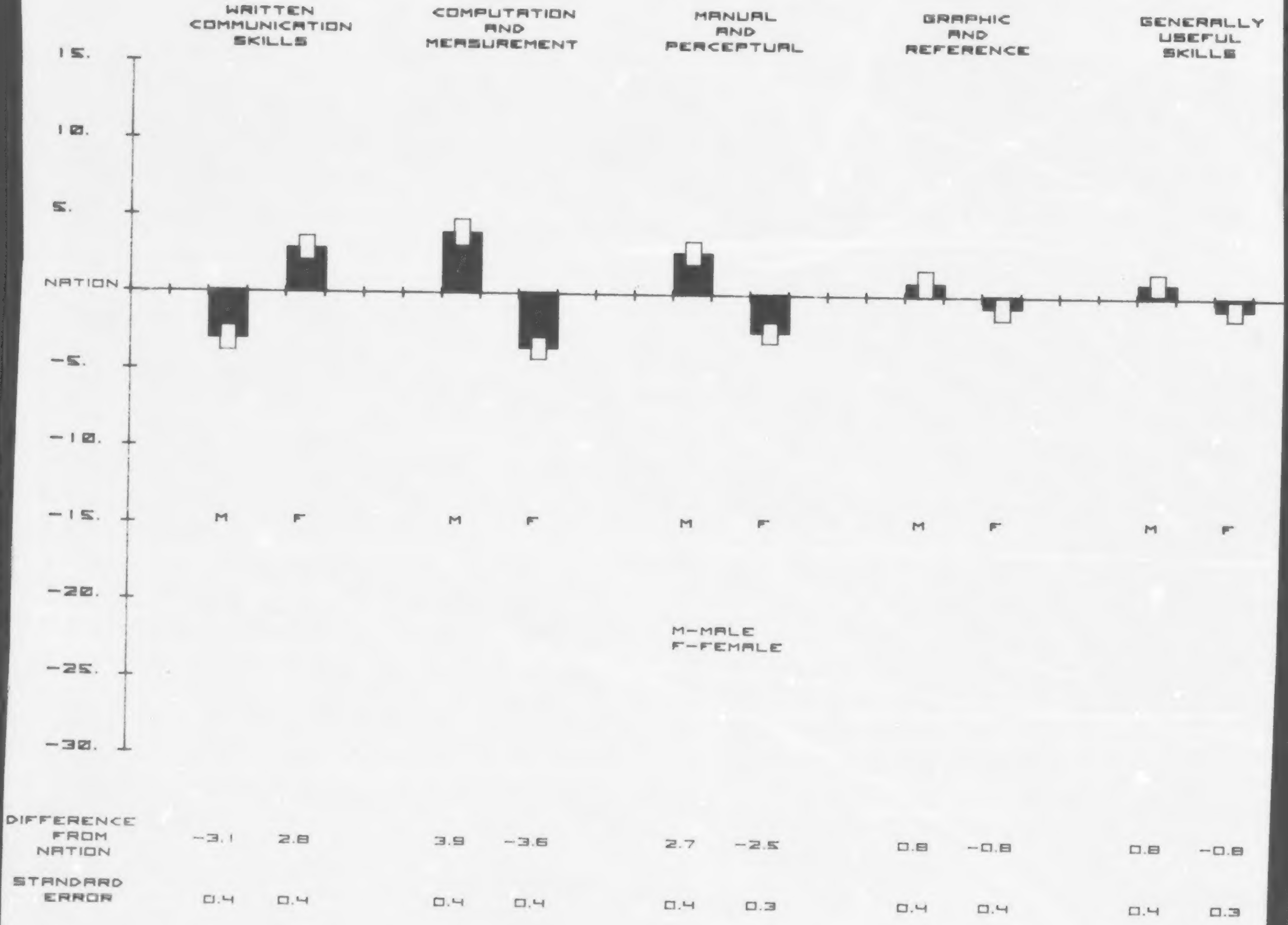
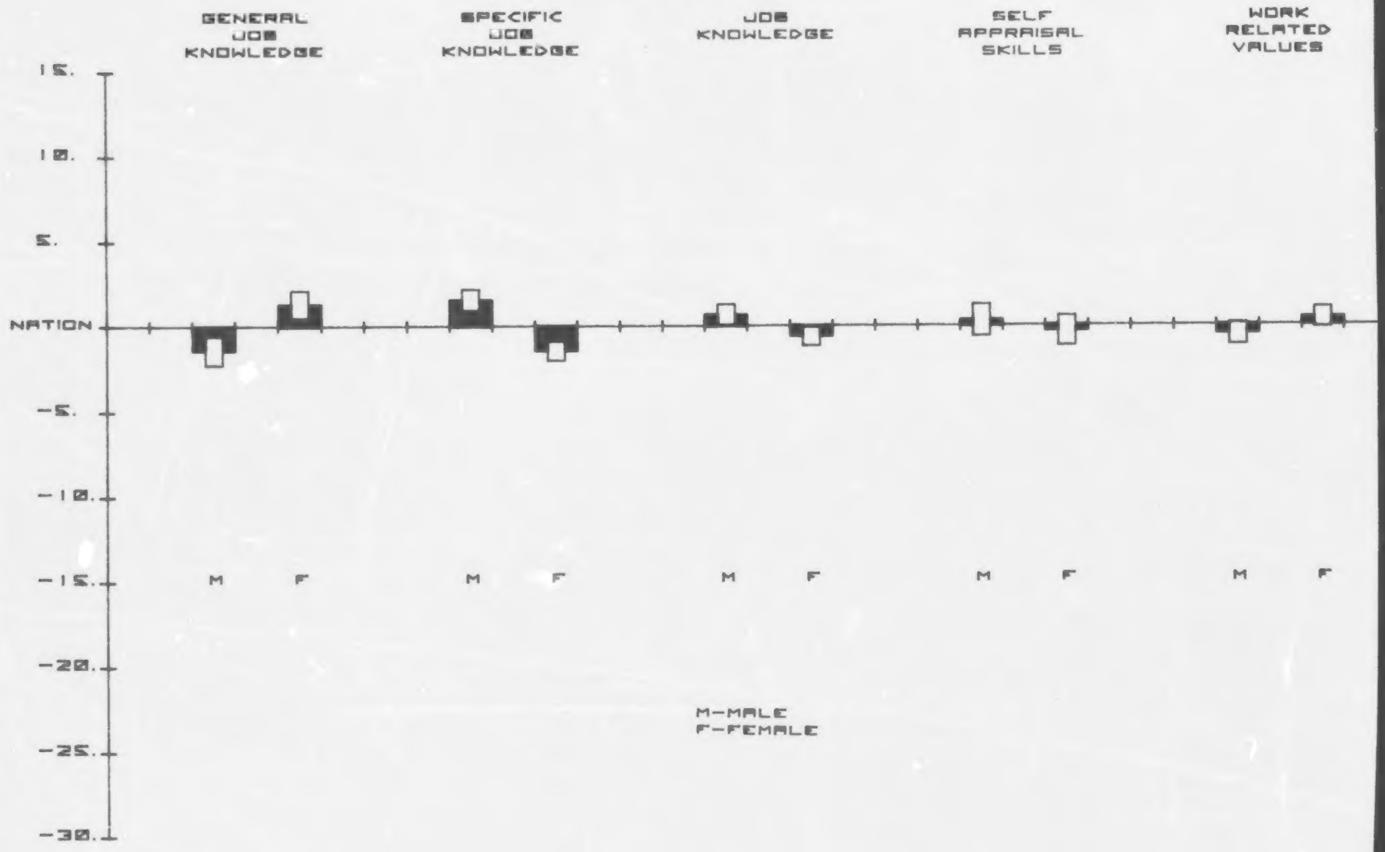


FIGURE 21 -- *Continued*



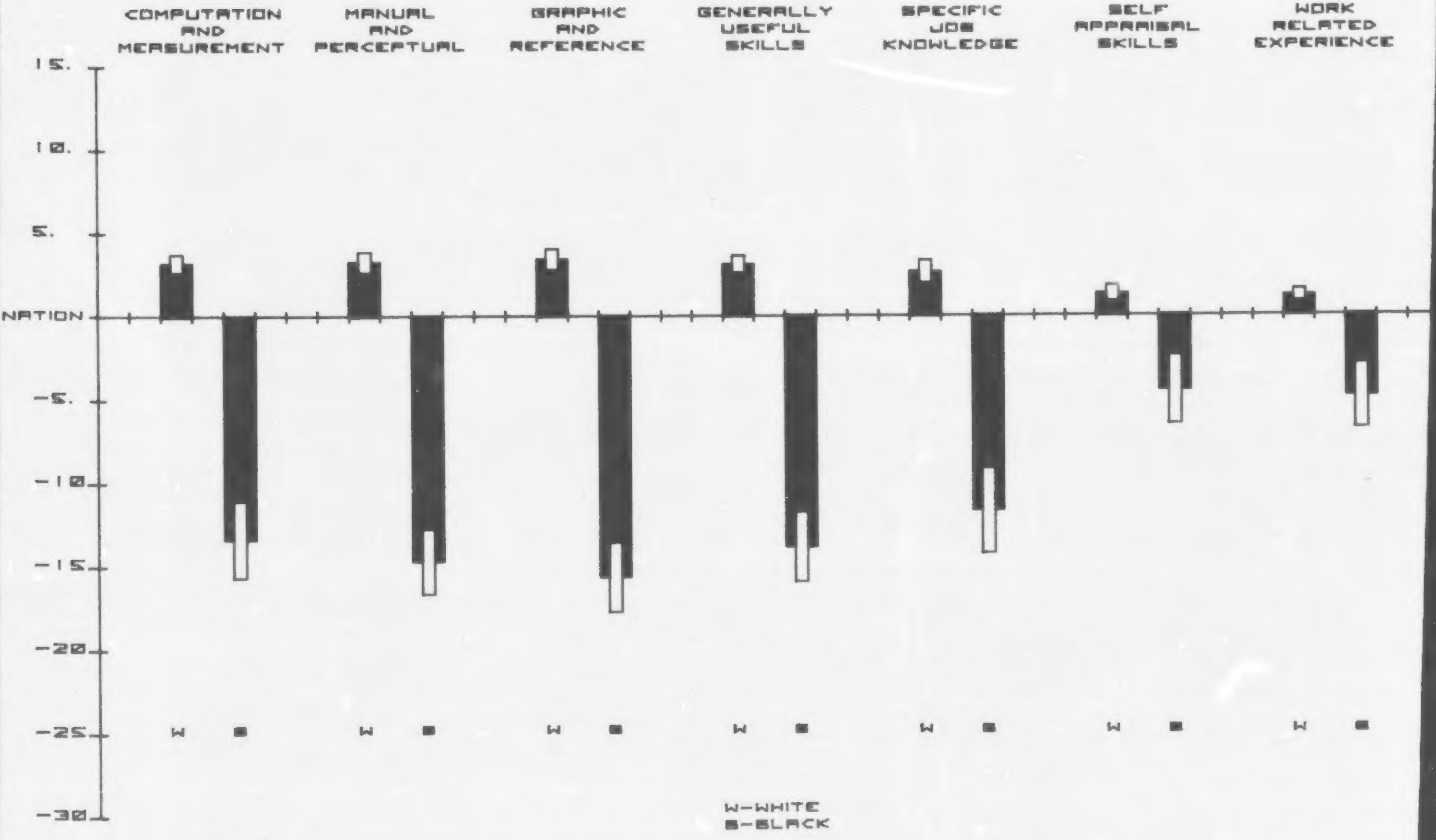
	General Job Knowledge M	General Job Knowledge F	Specific Job Knowledge M	Specific Job Knowledge F	Job Knowledge M	Job Knowledge F	Self Appraisal Skills M	Self Appraisal Skills F	Work Related Values M	Work Related Values F
DIFFERENCE FROM NATION	-1.4	1.3	1.8	-1.4	0.7	-0.8	0.3	-0.3	-0.5	0.5
STANDARD ERROR	0.4	0.4	0.3	0.3	0.3	0.3	0.5	0.4	0.3	0.3

Race

Average white performance for all themes at all ages was significantly higher than that of blacks. It should be noted that blacks, as a group, are more heavily represented in the disadvantaged groups of other variables than were other parts of the population (see Appendix B for some examples for the young adult population).

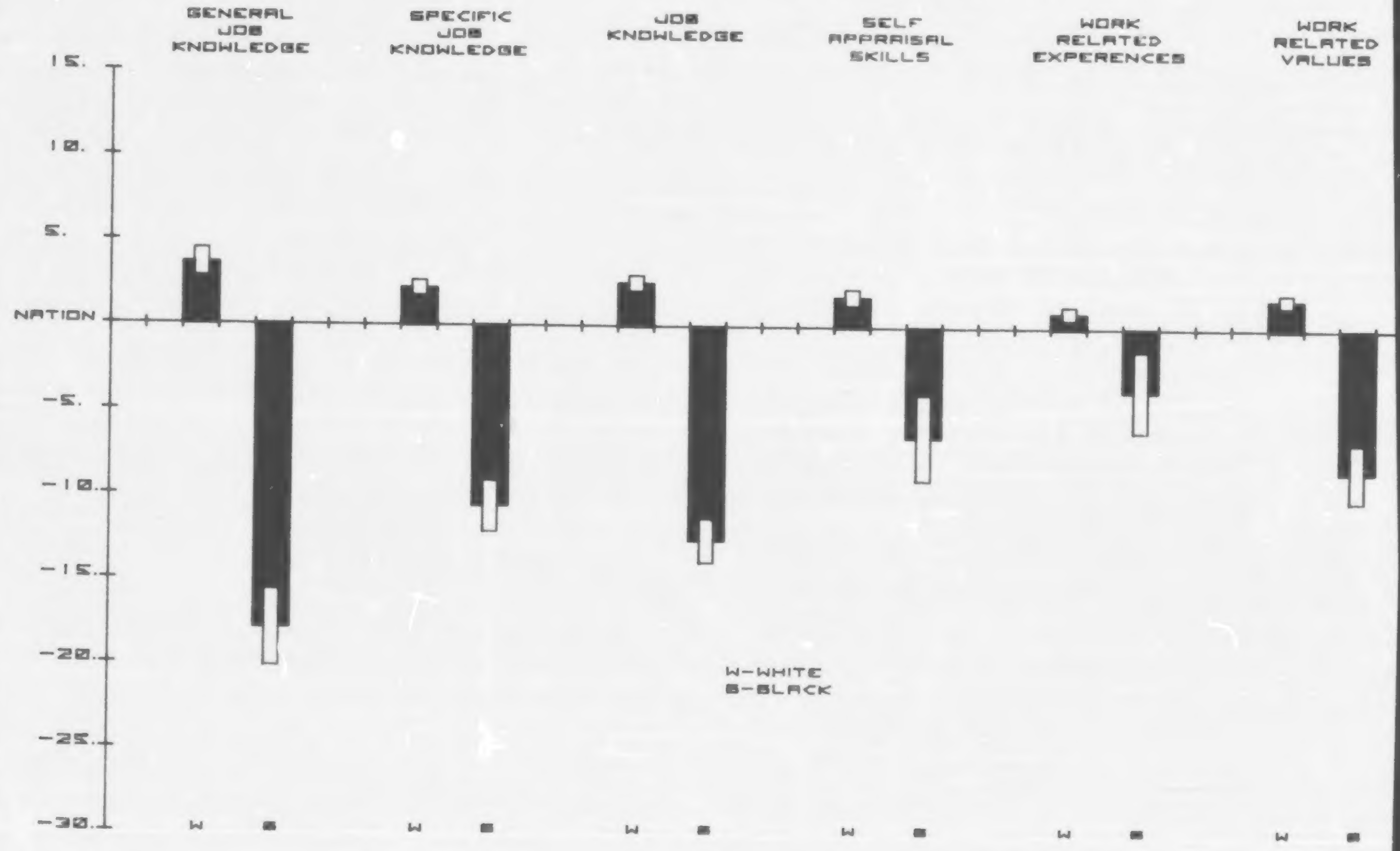
Figures 22 through 25 show the average performance differences between blacks and whites and the nation for the various exercise themes and the four ages. Observed differences between average performances of blacks and whites are also reflected in these figures. Estimates of the probabilities of the observed black- and white-performance differences, under the assumption of no black and white differences, were all less than .0001 (also listed in Appendix A).

FIGURE 22. Delta-P Values for Race, Age 9



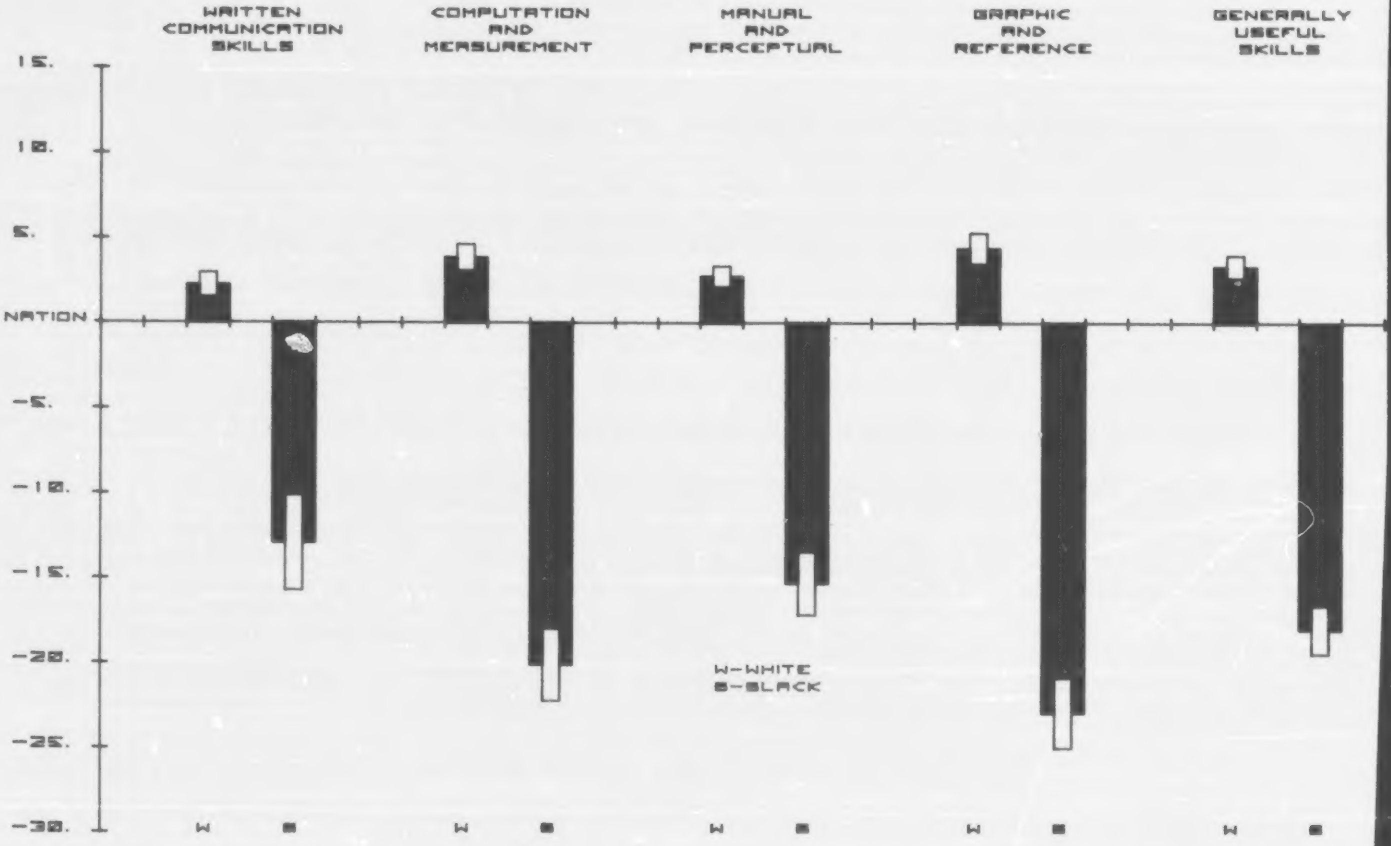
	W	B	W	B	W	B	W	B	W	B	W	B	W	B
DIFFERENCE FROM NATION	3.2	-13.4	3.3	-14.7	3.4	-15.6	3.1	-13.8	2.8	-11.7	1.3	-4.4	1.2	-4.8
STANDARD ERROR	0.3	1.2	0.3	1.0	0.3	1.0	0.3	1.0	0.3	1.3	0.2	1.0	0.2	1.0

FIGURE 23. Delta-P Values for Race, Age 13



	W	B	W	B	W	B	W	B	W	B	W	B
DIFFERENCE FROM NATION	3.7	-17.9	2.2	-10.7	2.5	-12.6	1.8	-6.5	0.9	-3.7	1.8	-8.4
STANDARD ERROR	0.4	1.1	0.2	0.8	0.2	0.7	0.2	1.3	0.2	1.2	0.2	0.9

FIGURE 23 -- *Continued*



	W	B	W	B	W	B	W	B	W	B
DIFFERENCE FROM NATION	2.2	-12.9	3.8	-20.1	2.7	-15.3	4.4	-23.0	3.3	-18.1
STANDARD ERROR	0.4	1.4	0.4	1.1	0.3	0.9	0.5	1.0	0.3	0.7

FIGURE 24. Delta-P Values for Race, All Age 17

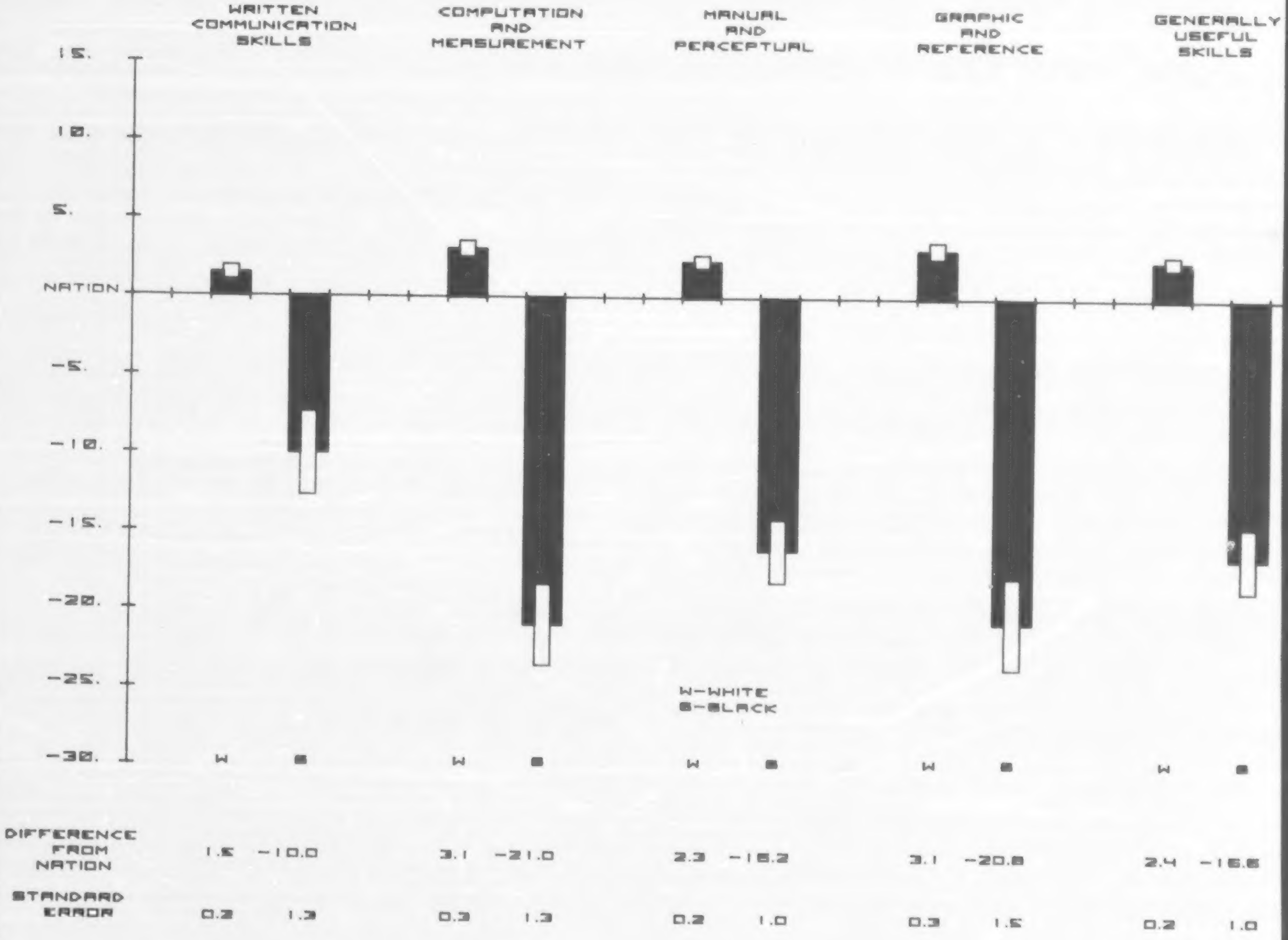
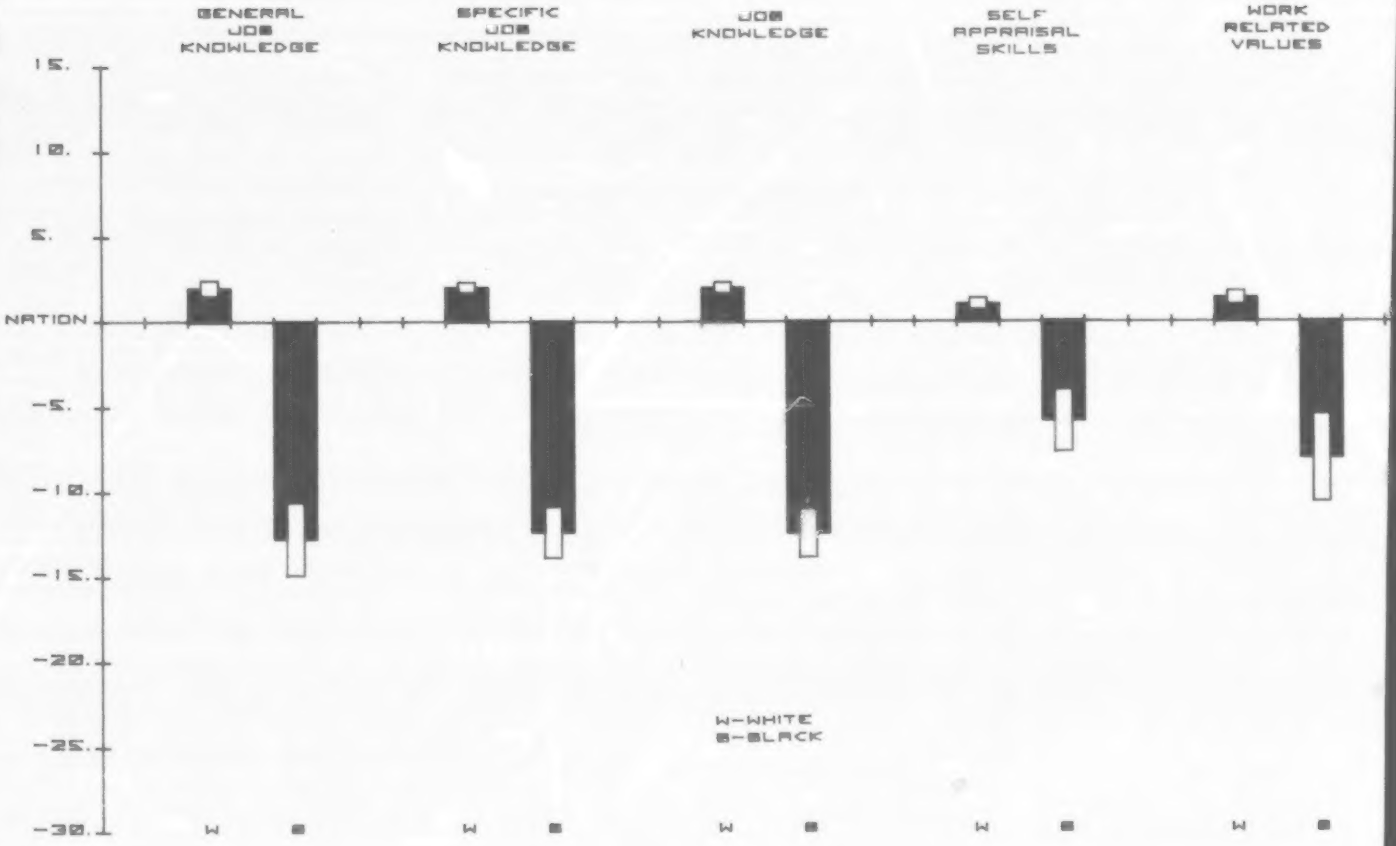


FIGURE 24 -- *Continued*



	W	B	W	B	W	B	W	B	W	B
DIFFERENCE FROM NATION	2.0	−12.8	2.0	−12.4	2.0	−12.5	1.0	−5.8	1.4	−8.0
STANDARD ERROR	0.2	1.1	0.2	0.7	0.2	0.7	0.2	0.8	0.2	1.3

FIGURE 25. Delta-P Values for Race, Adults

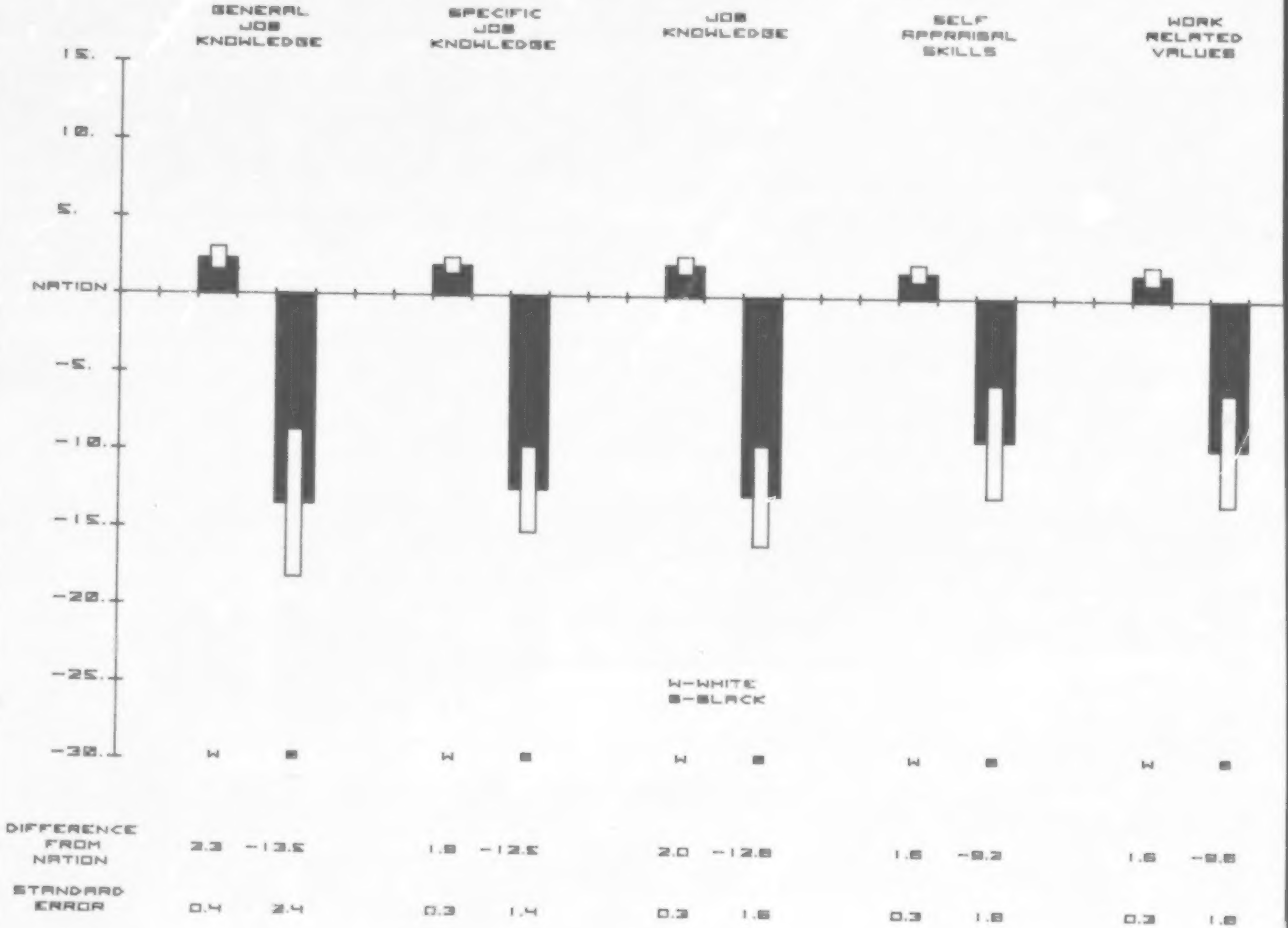
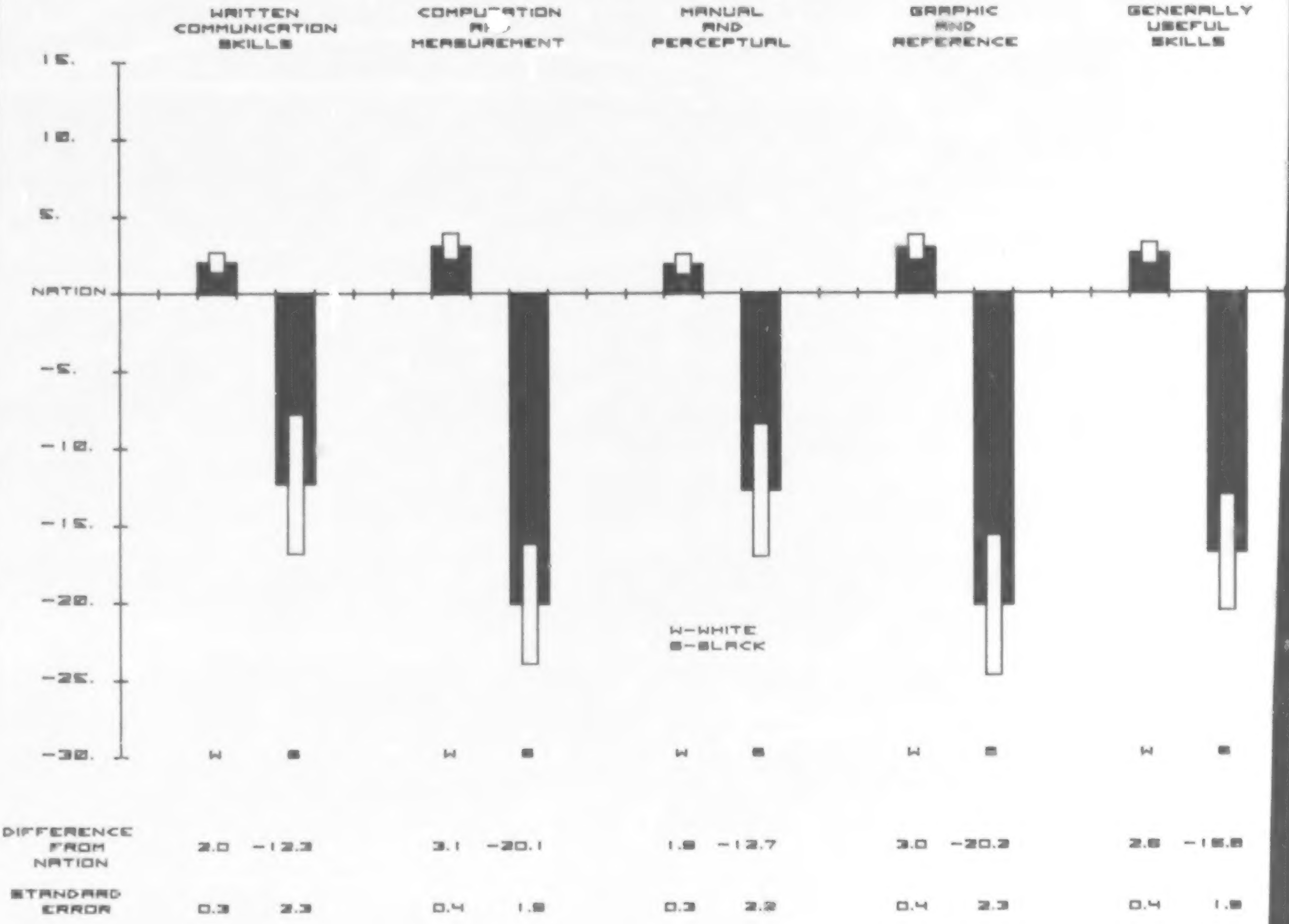


FIGURE 25 -- *Continued*



Home Environment

Because of its definition, the home-environment variable probably is little more than a measure of socioeconomic status. The data at all ages and across all exercise themes are similar in appearance.

Notice that while the pattern of differences among the three groups remain the same at ages 13 and 17 as at age 9, the performance relative to the average national performance changes. This occurs because the number of people in the group with four home-environment items increases substantially in size from age 9 to 13 and 17. This raises the national mean toward the upper group. Probably the parents of older students have accumulated more books and so forth than have the parents of the younger students. The young adults seem to have accumulated fewer of these items than the parents of the 13- and 17-year-old students, since the young adult national mean is again lower than the three home-environment items group. The less-than-three-items group has a larger number of persons in it than at the other ages.

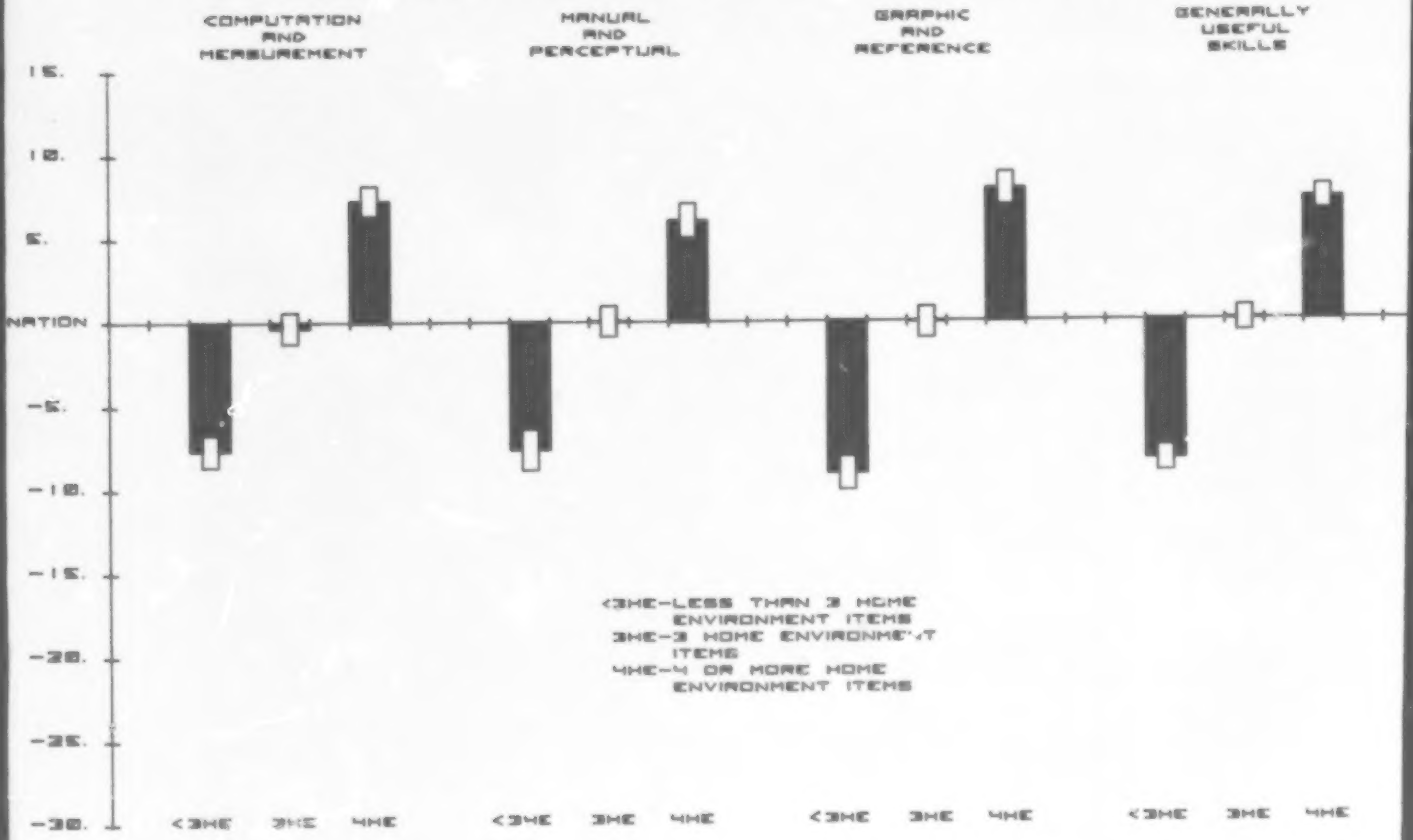
At age 9, the average performance of those in the group having fewer than three of the home-environment items in their homes was significantly lower than the other two home-environment groups on all exercise themes. The group having three home-environment items was significantly lower, in average performance, than the group having all four home-environment items on all exercise themes except Self-Appraisal Skills. On this exercise theme, the groups with three and four home-environment-items groups were not significantly different.

At ages 13 and 17, the average performances of the three home-environment groups were significantly different from each other on all exercise themes. The less-than-three-home-environment-items group was lowest, in average performance, on all exercise themes. The four-home-environment-items groups was highest, in average performance, on all exercise themes. The three-home-environment-items group was in between the other two groups in average performance, for all exercise themes.

Young adults in the less-than-three-home-environment-items group were significantly below the other two groups, in average performance, for all exercise themes. The three-home-environment-items group had average performances significantly below the four-home-environment-items group on the Written Communication Skills, Graphic and Reference Material, General Job Knowledge and Job Knowledge exercise themes. On the remaining exercise themes, the average performances of the three- and four-home-environment-items groups were not significantly different.

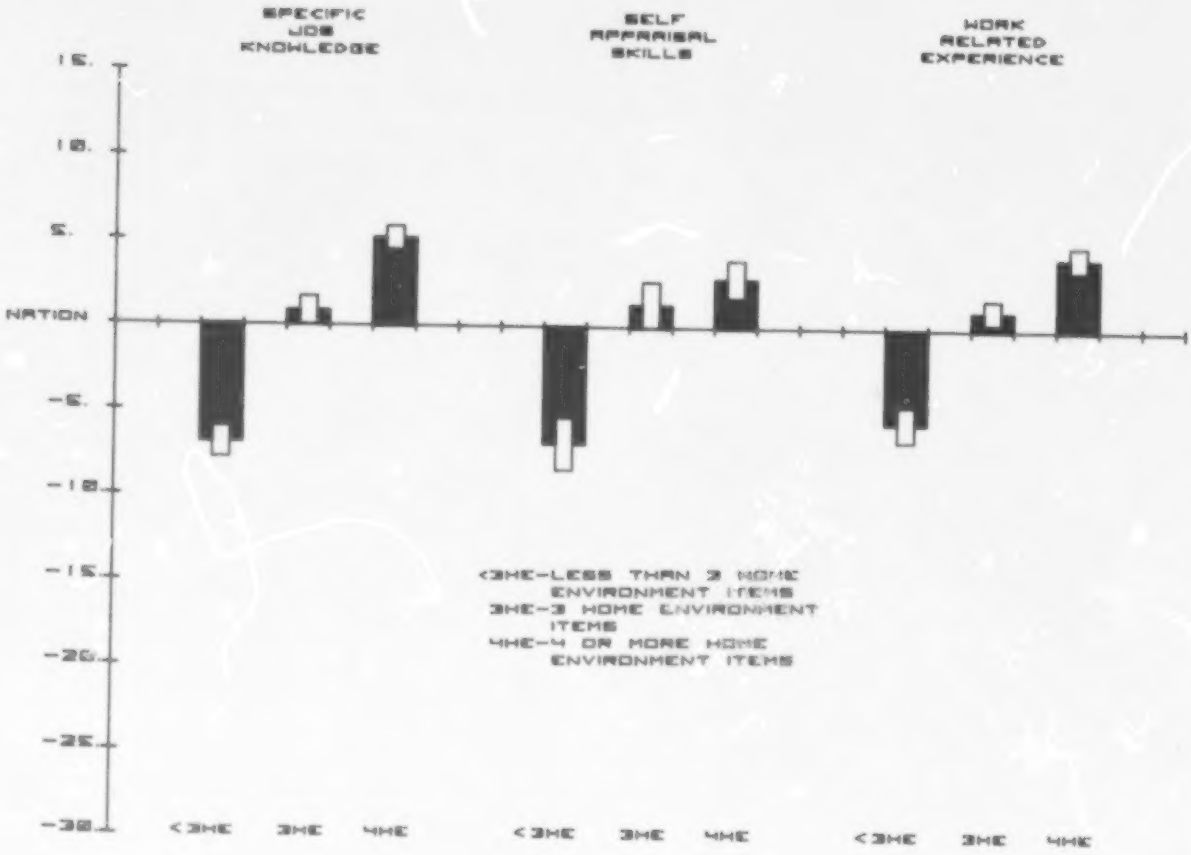
Figures 26 through 29 show the average performance differences between the home-environment groups and the nation for the various exercise themes and the four ages. Observed differences between the average performances of the home-environment groups are also reflected in the figures for the various exercise themes and the four ages. Estimates of the pair-wise probabilities of the observed pair-wise group differences, under the assumption of no pair-wise group differences, are given in Appendix A.

FIGURE 26. Delta-P Values for Home Environment, Age 9



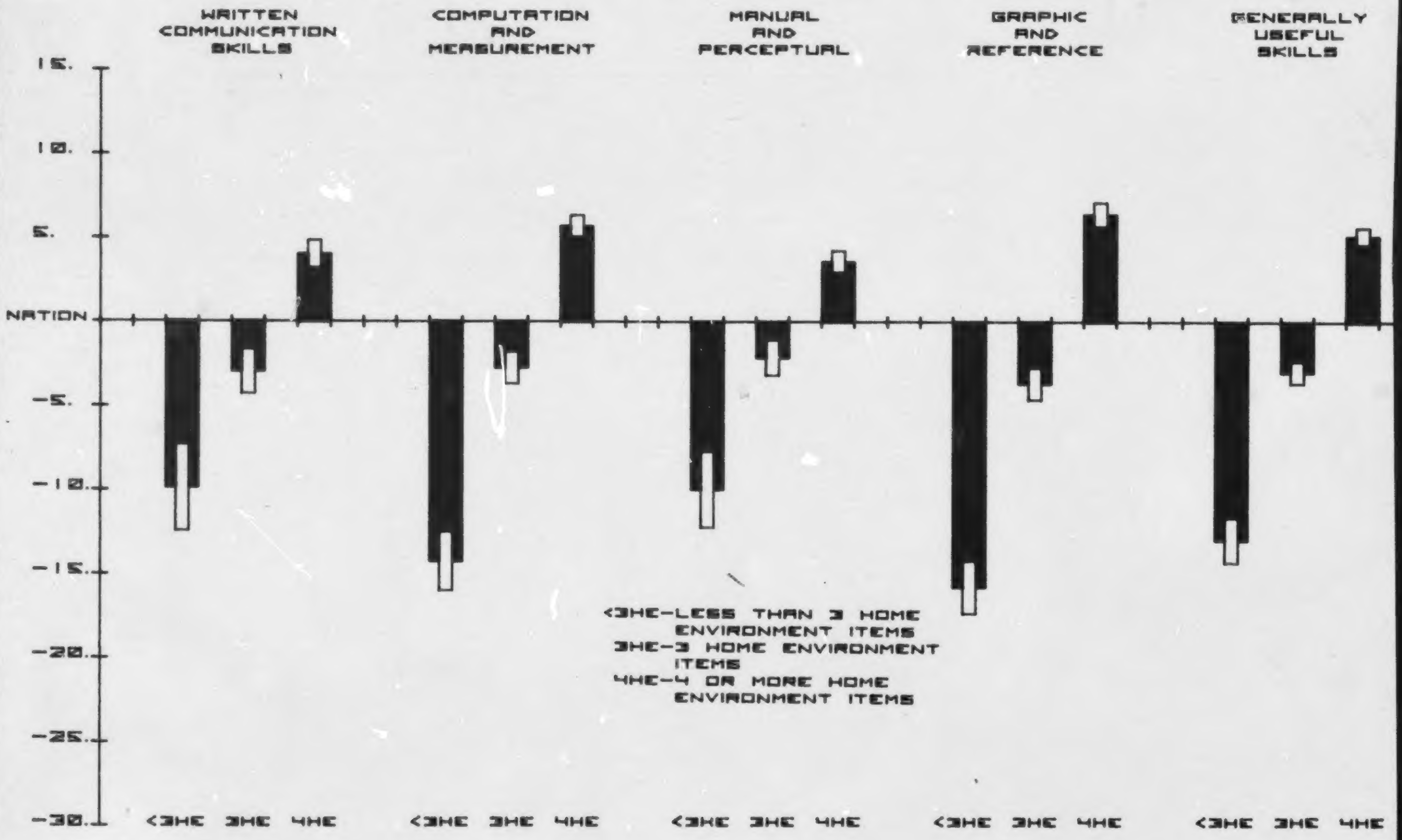
	<3HE	3HE	4HE	<3HE	3HE	4HE	<3HE	3HE	4HE	<3HE	3HE	4HE
DIFFERENCE FROM NATION	-7.8	-0.3	7.3	-7.6	0.1	6.1	-8.1	-0.1	7.9	-8.2	0.1	7.3
STANDARD ERROR	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4

FIGURE 26 -- *Continued*



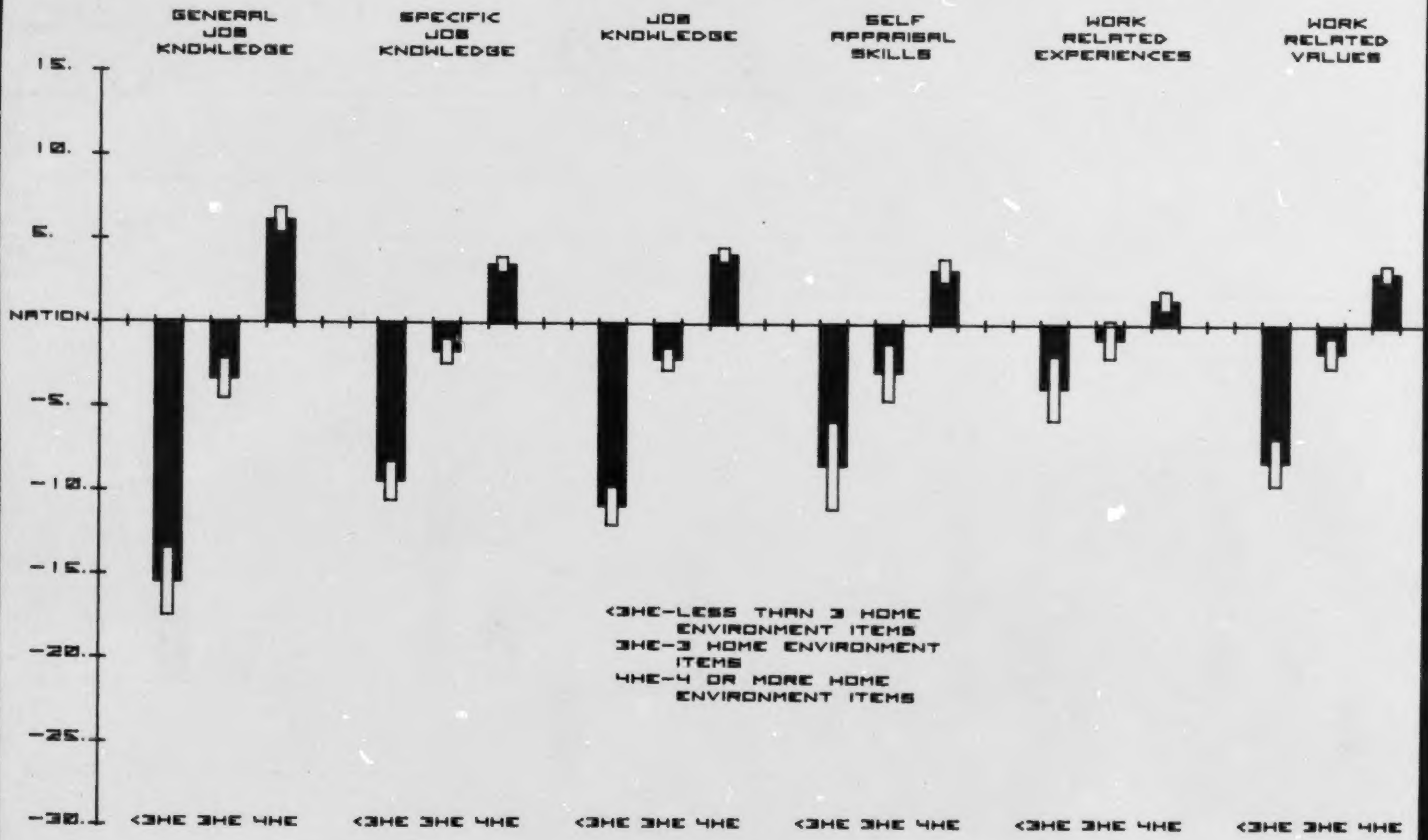
	<3HE	3HE	4HE	<3HE	3HE	4HE	<3HE	3HE	4HE
DIFFERENCE FROM NATION	-6.9	0.9	5.2	-6.9	1.3	2.9	-5.5	1.1	4.2
STANDARD ERROR	0.5	0.4	0.3	0.8	0.7	0.8	0.5	0.4	0.4

FIGURE 27. Delta-P Values for Home Environment, Age 13



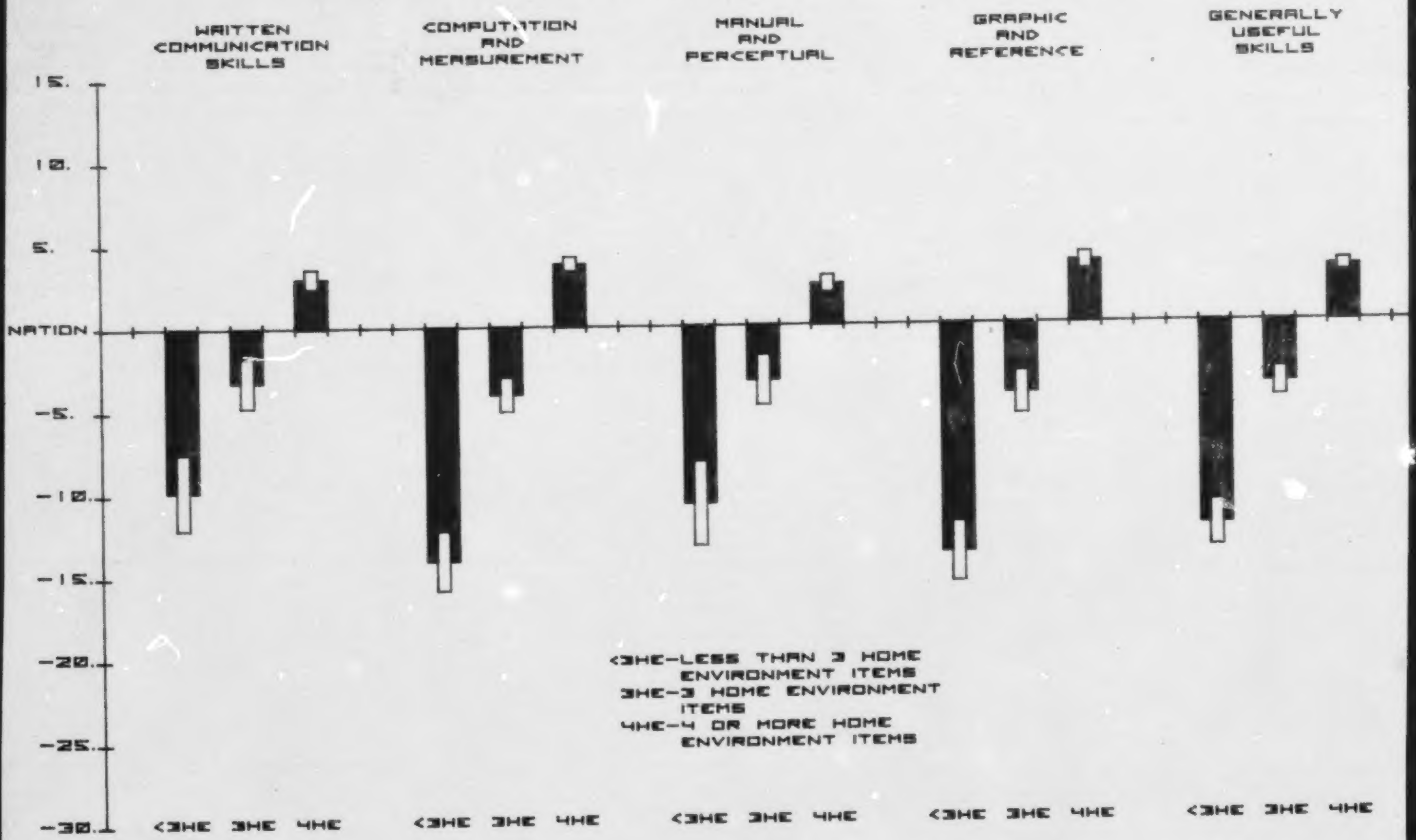
	<3HE	3HE	4HE	<3HE	3HE	4HE	<3HE	3HE	4HE	<3HE	3HE	4HE	<3HE	3HE	4HE
DIFFERENCE FROM NATION	-9.8	-3.0	4.0	-14.3	-2.7	5.7	-10.0	-2.1	3.6	-15.8	-3.7	6.4	-13.0	-3.0	5.1
STANDARD ERROR	1.3	0.7	0.4	0.9	0.5	0.3	1.1	0.6	0.3	0.8	0.5	0.4	0.7	0.3	0.3

FIGURE 27 -- *Continued*



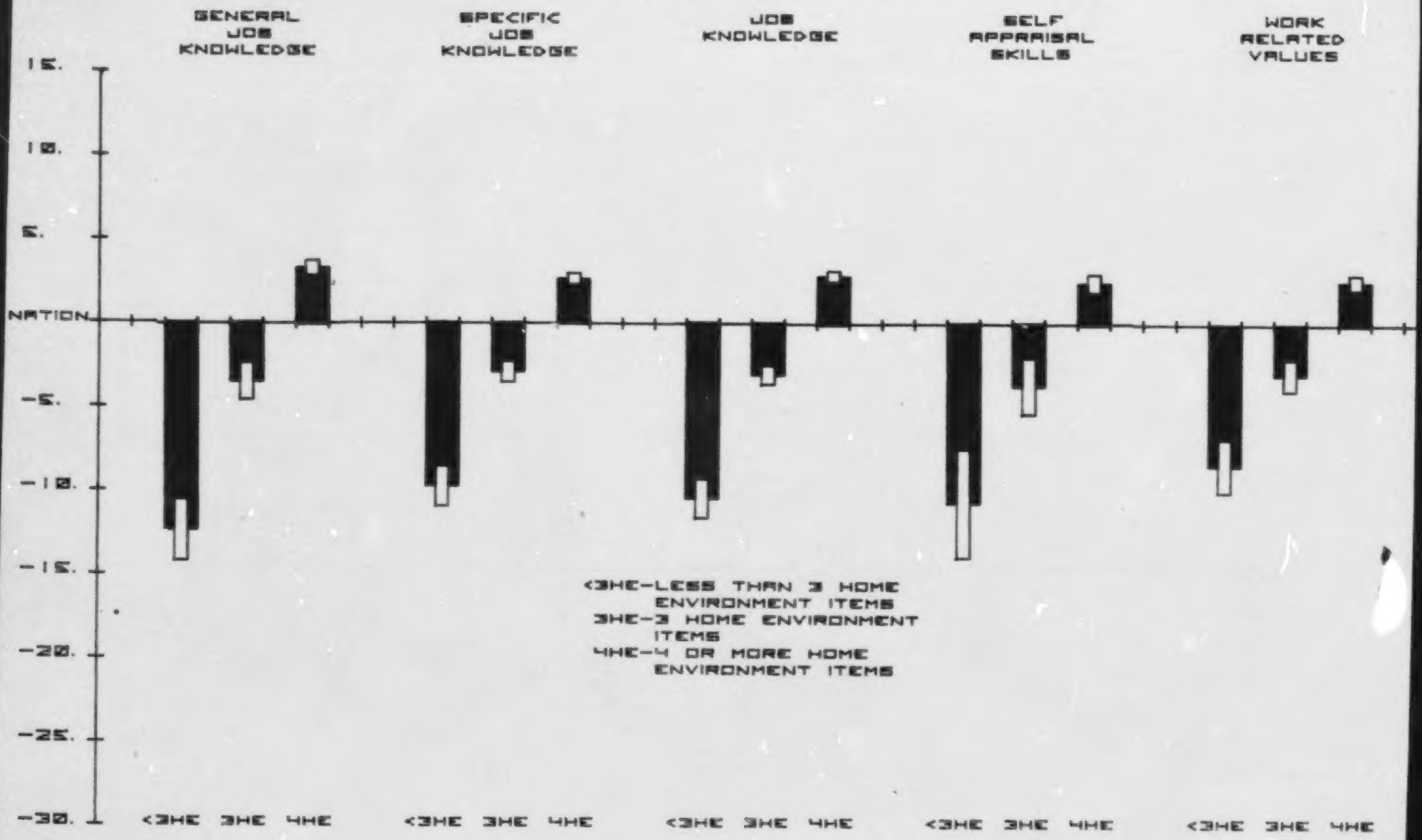
	<3HE	3HE	4HE	<3HE	3HE	4HE	<3HE	3HE	4HE	<3HE	3HE	4HE	<3HE	3HE	4HE	<3HE	3HE	4HE
DIFFERENCE FROM NATION	-15.4	-3.3	6.1	-9.4	-1.7	3.5	-10.9	-2.1	4.1	-8.4	-2.8	3.2	-3.7	-0.8	1.5	-8.1	-1.6	3.2
STANDARD ERROR	1.0	0.6	0.4	0.6	0.4	0.2	0.6	0.3	0.2	1.3	0.9	0.4	1.0	0.6	0.3	0.7	0.5	0.3

FIGURE 28. Delta-P Values for Home Environment, All Age 17



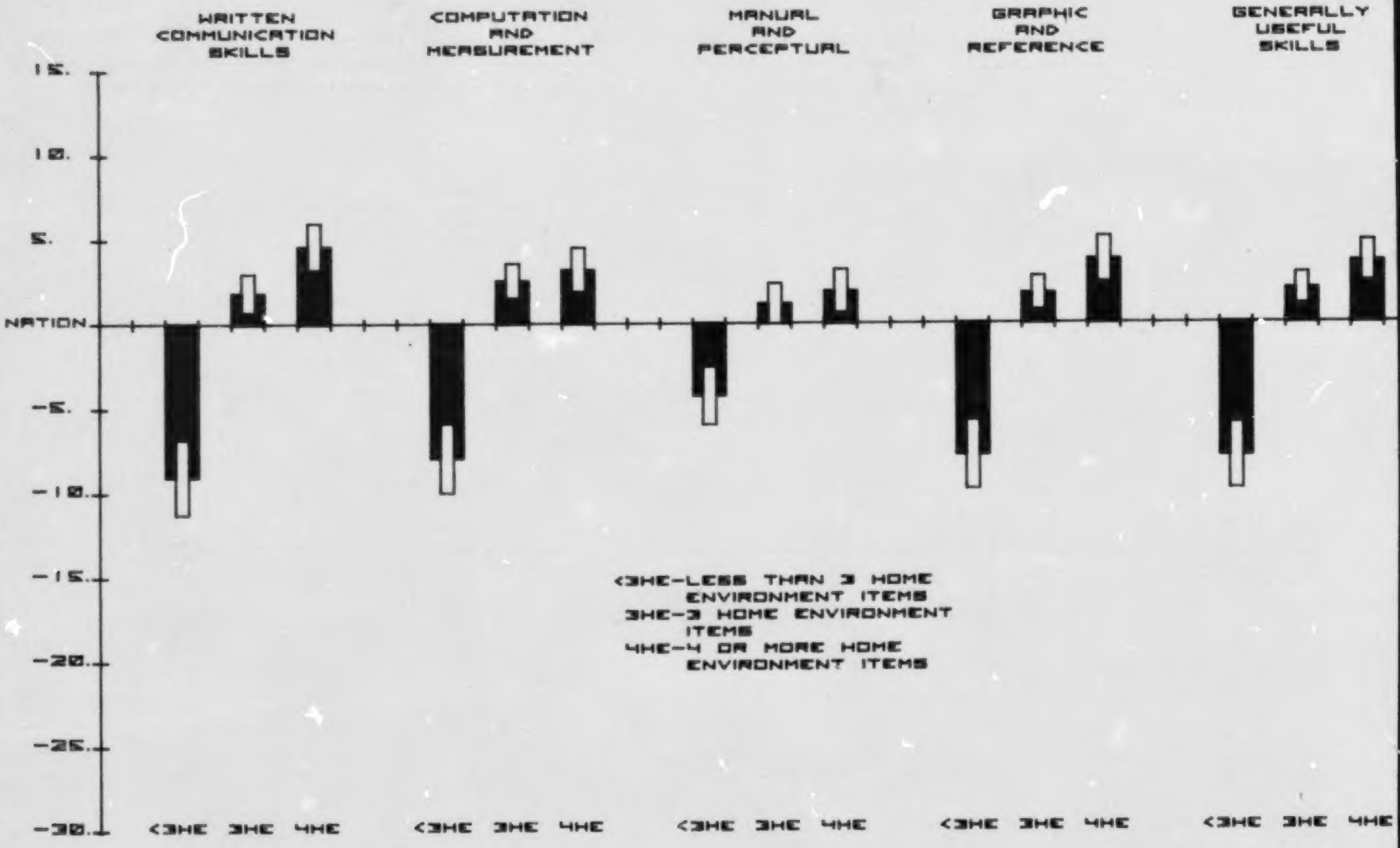
	<3HE	3HE	4HE	<3HE	3HE	4HE	<3HE	3HE	4HE	<3HE	3HE	4HE	<3HE	3HE	4HE
DIFFERENCE FROM NATION	-9.8	-3.2	3.0	-14.0	-4.0	3.8	-10.7	-3.3	2.5	-13.7	-4.1	3.7	-12.2	-3.7	3.3
STANDARD ERROR	1.2	0.8	0.3	0.9	0.5	0.2	1.3	0.8	0.3	0.9	0.6	0.3	0.7	0.4	0.2

FIGURE 28 -- *Continued*



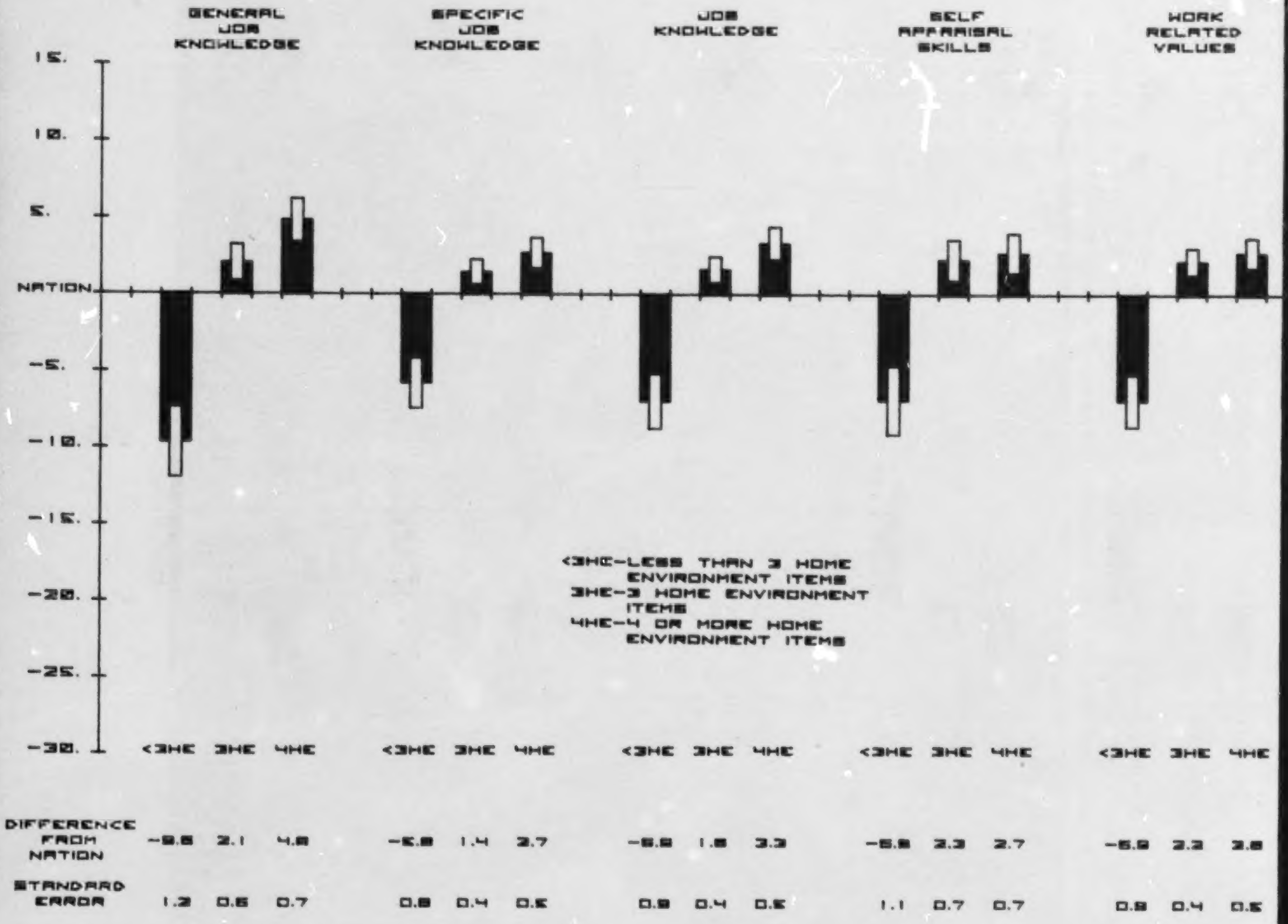
	<3HE	3HE	4HE	<3HE	3HE	4HE	<3HE	3HE	4HE	<3HE	3HE	4HE	<3HE	3HE	4HE
DIFFERENCE FROM NATION	-12.3	-3.5	3.3	-9.7	-2.8	2.7	-10.5	-3.0	2.8	-10.7	-3.7	2.5	-8.4	-3.0	2.8
STANDARD ERROR	0.9	0.5	0.2	0.6	0.3	0.2	0.5	0.3	0.2	1.6	0.8	0.3	0.8	0.5	0.2

FIGURE 29. Delta-P Values for Home Environment, Adults



	<3HE	3HE	4HE	<3HE	3HE	4HE	<3HE	3HE	4HE	<3HE	3HE	4HE	<3HE	3HE	4HE
DIFFERENCE FROM NATION	-9.0	1.8	4.6	-7.8	2.5	3.2	-4.3	1.2	1.9	-7.7	1.8	3.8	-7.8	2.0	3.6
STANDARD ERROR	1.1	0.6	0.7	1.0	0.5	0.7	0.9	0.6	0.6	1.0	0.5	0.7	1.0	0.5	0.6

FIGURE 29 -- *Continued*



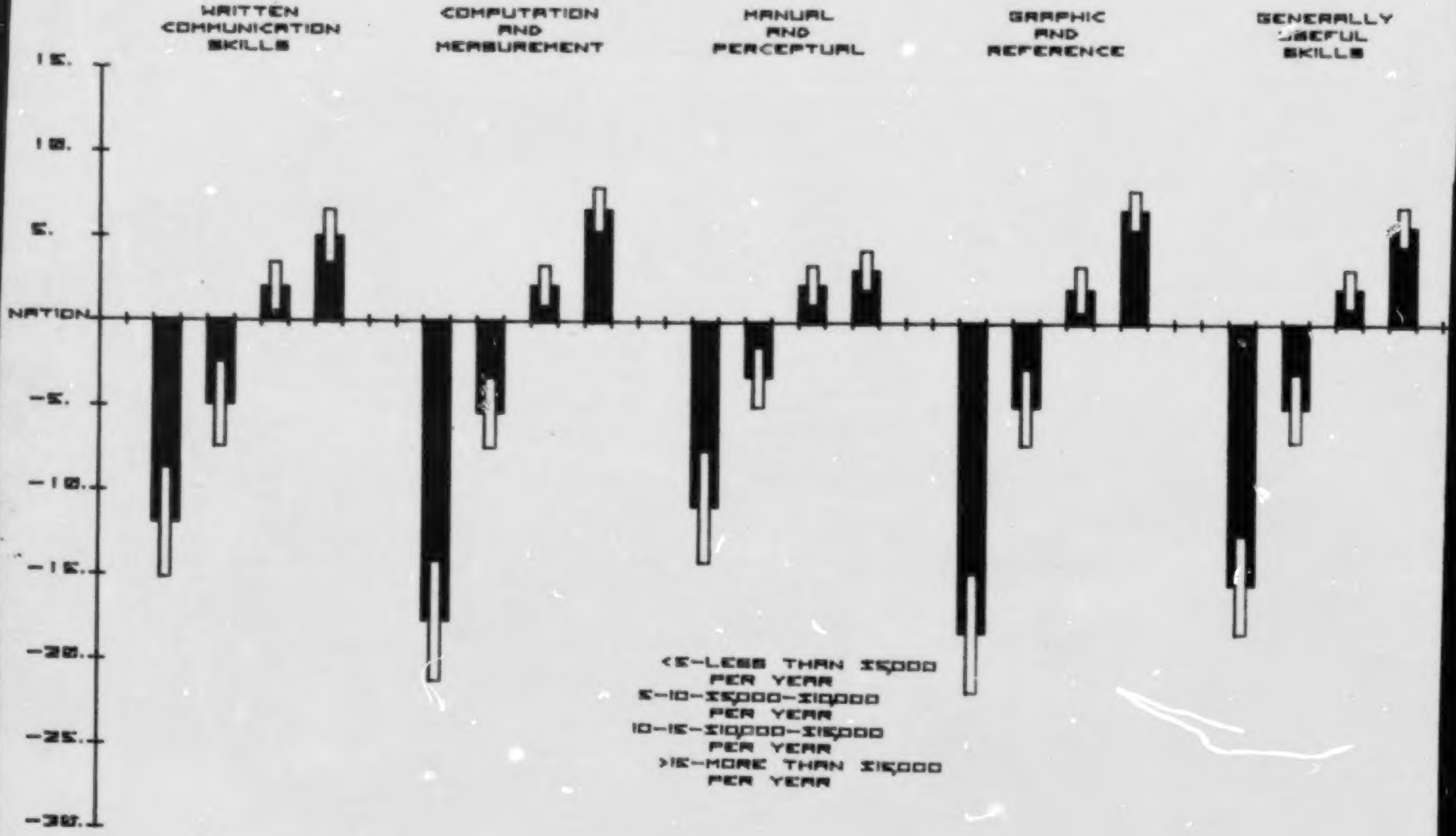
Family Income

The young adult data were collected in the summer of 1974; hence, the numbers of dollars are not equivalent to comparable amounts at the present time. The levels used placed almost a third of the population in the upper (more than $15,000) income group.

The average performance of adults is directly related to family income. Each of the four levels reported differed significantly from the other three levels on all but two of the content themes. The two exceptions are for the more-than-$15,000 and the $10,000-15,000 levels on the exercise themes called Manual/Perceptual Skills and Self-Appraisal Skills.

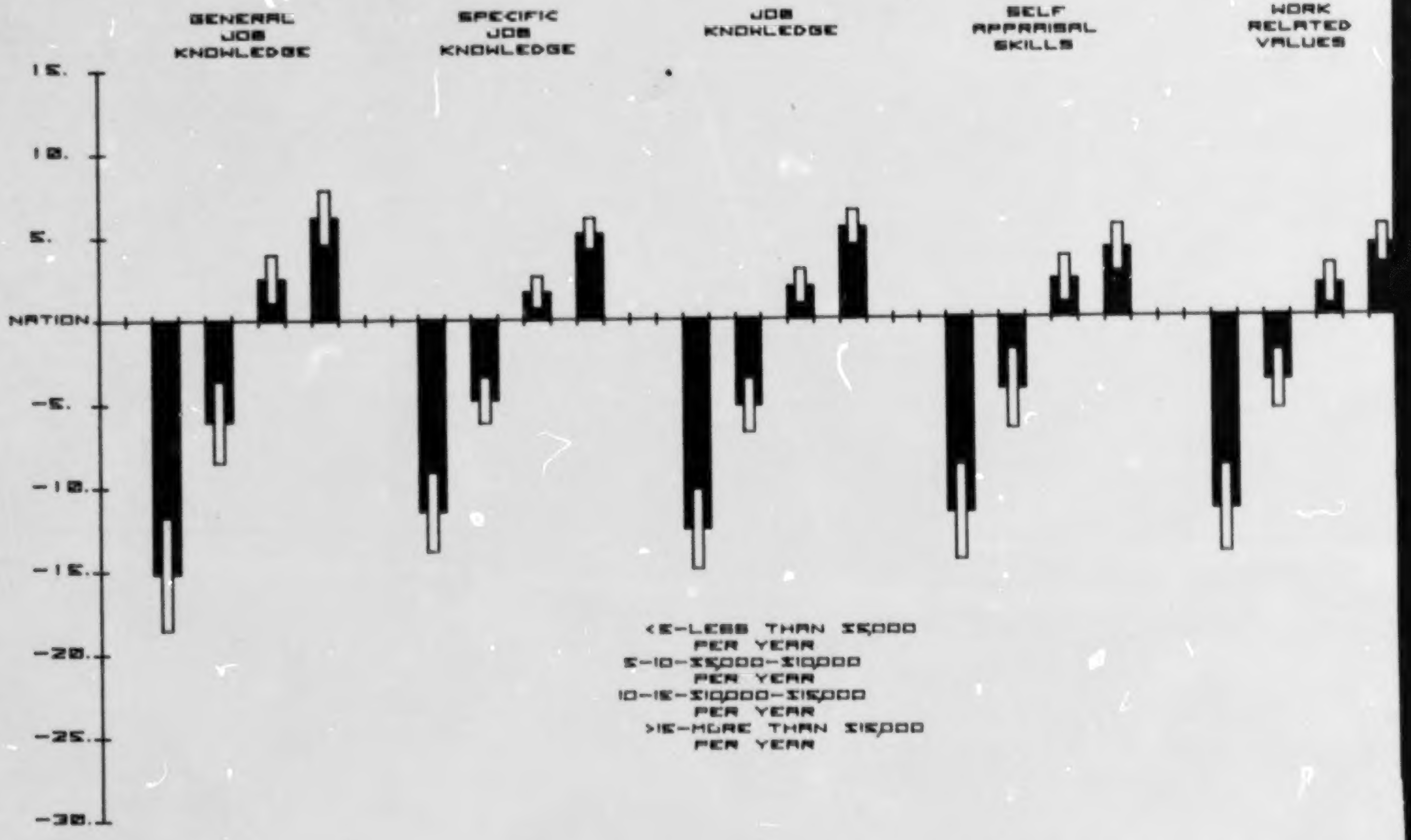
Figure 30 shows the average performance differences between the family-income groups and the nation for the adult exercise themes. Observed differences between average performances of the family-income groups are also reflected in the figures for the adult exercise themes. Estimates of the pair-wise probabilities of the observed pair-wise group differences, under the assumption of no pair-wise group differences, are given in Appendix A.

FIGURE 30. Delta-P Values for Family Income, Adults



	<5	5-10	10-15	>15	<5	5-10	10-15	>15	<5	5-10	10-15	>15	<5	5-10	10-15	>15	<5	5-10	10-15	>15
DIFFERENCE FROM NATION	-11.8	-4.9	2.0	5.0	-17.7	-5.4	2.1	6.6	-10.9	-3.3	2.2	3.1	-18.3	-4.9	2.0	6.7	-15.4	-4.8	2.1	5.8
STANDARD ERROR	1.8	1.3	0.7	0.8	1.9	1.0	0.8	0.7	1.7	0.9	0.8	0.8	1.9	1.1	0.7	0.6	1.5	1.0	0.6	0.8

FIGURE 30 -- *Continued*



	<5	5-10	10-15	>15	<5	5-10	10-15	>15	<5	5-10	10-15	>15	<5	5-10	10-15	>15	<5	5-10	10-15	>15
DIFFERENCE FROM NATION	-15.1	-6.0	2.5	6.2	-11.5	-4.8	1.8	5.1	-12.8	-5.2	1.9	5.5	-11.8	-4.3	2.3	4.1	-11.5	-3.8	1.8	4.3
STANDARD ERROR	1.7	1.2	0.7	0.8	1.2	0.7	0.5	0.5	1.2	0.8	0.5	0.5	1.4	1.2	0.7	0.7	1.3	0.9	0.8	0.8

APPENDIX A

PROBABILITY LEVELS OF DIFFERENCES BETWEEN REPORTING GROUPS WITHIN VARIABLES

In this appendix are the pair-wise probabilities of the differences observed between each pair of reporting groups, within each variable. The probabilities are under the assumption of no differences between these pair of reporting groups. The probabilities are given for each exercise theme and age. They are arranged by variable then age and exercise theme in the same order as in Chapters 2, 3 and 4. For a more detailed discussion of these probabilities see the Introduction.

Because probability levels for differences between blacks and whites for all ages and all themes were .0001 or less, there is no table.

TABLE A-1. Probability Levels for Differences Between Regions: 9-, 13-, All 17-Year-Olds and Adults

9-Year-Olds

	West	Central	Northeast
Computation and measurement			
Southeast	.0090	.0001	.0001
West		.4296	.0001
Central			.0028
Manual and perceptual skills			
Southeast	.0001	.0001	.0001
West		.0252	.2628
Central			.2984
Graphic and reference materials			
Southeast	.0156	.0001	.0001
West		.2380	.0930
Central			.5892
Generally useful skills			
Southeast	.0001	.0001	.0001
West		.1096	.0062
Central			.2040
Specific job knowledge			
Southeast	.0001	.0001	.0020
West		.9044	.6170
Central			.4296
Self-appraisal skills			
Southeast	.3734	.0064	.0768
West		.2340	.6384
Central			.3078
Work-related experiences			
Southeast	.0001	.0001	.0034
West		.3682	.5686
Central			.1212

TABLE A-1 -- *Continued.*

13-Year-Olds

	West	Central	Northeast
Written communication skills			
Southeast	.0404	.0001	.0001
West		.1188	.0238
Central			.7718
Computation and measurement			
Southeast	.0001	.0001	.0001
West		.0160	.0094
Central			.8808
Manual and perceptual skills			
Southeast	.0001	.0001	.0001
West		.2040	.2714
Central			.7948
Graphic and reference materials			
Southeast	.0104	.0001	.0001
West		.0001	.3174
Central			.1470
Generally useful skills			
Southeast	.0001	.0001	.0001
West		.0076	.0198
Central			.7414
General job knowledge			
Southeast	.0456	.0001	.0001
West		.1074	.0286
Central			.3422
Specific job knowledge			
Southeast	.0001	.0001	.0001
West		.2542	.0040
Central			.1118

TABLE A-1 -- *Continued*

13-Year-Olds *Continued*

	West	Central	Northeast
Job knowledge			
Southeast	.0001	.0001	.0001
West		.1970	.0001
Central			.0818
Self-appraisal skills			
Southeast	.4010	.0182	.3472
West		.0910	.8886
Central			.1310
Work-related experiences			
Southeast	.0672	0004	.9920
West		.2420	.0476
Central			.0001
Work-related values			
Southeast	.4296	.0001	.0160
West		.0060	.0750
Central			.3898

All 17-Year-Olds

	West	Central	Northeast
Written communication skills			
Southeast	.8572	.0001	.0488
West		.0034	.0614
Central			.3370
Computation and measurement			
Southeast	.0001	.0001	.0001
West		.0056	.0434
Central			.6170
Manual and perceptual skills			
Southeast	.0001	.0001	.0001
West		.1738	.7490
Central			.0854

TABLE A-1 -- *Continued*

All 17-Year-Olds *Continued*

	West	Central	Northeast
Graphic and reference materials			
Southeast	.0001	.0001	.0001
West		.0001	.0136
Central			.1836
Generally useful skills			
Southeast	.0001	.0001	.0001
West		.0001	.0232
Central			.1646
General job knowledge			
Southeast	.0050	.0001	.0332
West		.0488	.3270
Central			.0001
Specific job knowledge			
Southeast	.0001	.0001	.0001
West		.0001	.0150
Central			.7794
Job knowledge			
Southeast	.0001	.0001	.0001
West		.0001	.1706
Central			.1164
Self-appraisal skills			
Southeast	.0001	.0001	.3222
West		.1236	.0104
Central			.0001
Work-related values			
Southeast	.0114	.0001	.0030
West		.2186	.8336
Central			.2628

TABLE A-1 -- *Continued*

	Adults		
	West	Central	Northeast
Written communication skills			
Southeast	.0376	.0001	.2714
West		.4532	.2420
Central			.0238
Computation and measurement			
Southeast	.0050	.0001	.0004
West		.3078	.7414
Central			.0734
Manual and perceptual skills			
Southeast	.0001	.0034	.0090
West		.7642	.6242
Central			.4966
Graphic and reference materials			
Southeast	.0001	.0001	.0002
West		.2802	.5222
Central			.0300
Generally useful skills			
Southeast	.0046	.0001	.0118
West		.3524	.4472
Central			.0316
General job knowledge			
Southeast	.0001	.0001	.0872
West		.4902	.0818
Central			.0082
Specific job knowledge			
Southeast	.0001	.0001	.0001
West		.4412	.8650
Central			.5028

TABLE A-1 -- *Continued*

Adults *Continued*

	West	Central	Northeast
Job knowledge			
Southeast	.0001	.0001	.0001
West		.4238	.5028
Central			.1052
Self-appraisal skills			
Southeast	.0036	.0300	.8886
West		.3270	.0070
Central			.0500
Work-related values			
Southeast	.0164	.0001	.0434
West		.0836	.6030
Central			.0146

TABLE A-2. Probability Levels for Differences Between Size-and-Type-of-Community Subclasses: 9-, 13-, All 17-Year-Olds and Adults

9-Year-Olds

	Extreme Rural	Small Places	Medium City	Main Big City	Urban Fringe	High Metro
Computation and measurement						
Low metro	.0001	.0001	.0001	.0001	.0001	.0001
Extreme rural		.0264	.3370	.4840	.1388	.0001
Small places			.2006	.2076	.6966	.0001
Medium city				.8650	.5222	.0001
Main big city					.4654	.0001
Urban fringe						.0001
Manual and perceptual skills						
Low metro	.0032	.0001	.0001	.0001	.0001	.0001
Extreme rural		.0366	.0476	.2984	.0204	.0001
Small places			.9522	.1936	.5962	.0001
Medium city				.2420	.5892	.0001
Main big city					.1052	.0001
Urban fringe						.0060
Graphic and reference materials						
Low metro	.0001	.0001	.0001	.0001	.0001	.0001
Extreme rural		.0444	.2420	.9920	.2076	.0001
Small places			.4122	.0324	.5552	.0001
Medium city				.2262	.8808	.0001
Main big city					.1902	.0001
Urban fringe						.0001
Generally useful skills						
Low metro	.0001	.0001	.0001	.0001	.0001	.0001
Extreme rural		.0316	.1096	.4412	.0950	.0001
Small places			.4654	.0208	.5286	.0001
Medium city				.1836	.9204	.0001
Main big city					.1470	.0001
Urban fringe						.0001
Specific job knowledge						
Low metro	.0082	.0001	.0001	.0001	.0001	.0001
Extreme rural		.1096	.1470	.3898	.0466	.0001
Small places			.9362	.2112	.3788	.0001
Medium city				.3370	.6170	.0001
Main big city					.0588	.0001
Urban fringe						.0001

TABLE A-2 -- *Continued*

9-Year-Olds *Continued*

Self-appraisal skills

	Extreme Rural	Small Places	Medium City	Main Big City	Urban Fringe	High Metro
Low metro	.7414	.2846	.0001	.1074	.5552	.0001
Extreme rural		.7794	.1032	.4716	.8808	.0178
Small places			.0124	.4412	.9044	.0028
Medium city				.1970	.0836	.1646
Main big city					.5156	.0278
Urban fringe						.0128

Work-related experiences

	Extreme Rural	Small Places	Medium City	Main Big City	Urban Fringe	High Metro
Low metro	.3422	.0030	.0070	.0466	.0001	.0001
Extreme rural		.0512	.0784	.2714	.0001	.0001
Small places			.9442	.5962	.0456	.0146
Medium city				.6030	.1052	.0456
Main big city					.0562	.0252
Urban fringe						.6966

13-Year-Olds

Written communication skills

	Extreme Rural	Small Places	Medium City	Main Big City	Urban Fringe	High Metro
Low metro	.0366	.0001	.0001	.0001	.0001	.0001
Extreme rural		.1118	.5620	.0466	.1164	.0001
Small places			.0990	.4412	.7872	.0080
Medium city				.0366	.1416	.0001
Main big city					.6966	.1868
Urban fringe						.0970

Computation and measurement

	Extreme Rural	Small Places	Medium City	Main Big City	Urban Fringe	High Metro
Low metro	.0001	.0001	.0001	.0001	.0001	.0001
Extreme rural		.4966	.6100	.9840	.2340	.0001
Small places			.0614	.3524	.3734	.0001
Medium city				.5286	.0264	.0001
Main big city					.1388	.0001
Urban fringe						.0080

TABLE A-2 -- *Continued*

13-Year-Olds *Continued*

	Extreme Rural	Small Places	Medium City	Main Big City	Urban Fringe	High Metro
Manual and perceptual skills						
Low metro	.0414	.0001	.0001	.0001	.0001	.0001
Extreme rural		.4010	.4296	.4654	.0854	.0001
Small places			.9680	.8650	.1074	.0001
Medium city				.8650	.2302	.0001
Main big city					.1032	.0001
Urban fringe						.0114
Graphic and reference skills						
Low metro	.0001	.0001	.0001	.0001	.0001	.0001
Extreme rural		.2938	.5222	.6600	.0802	.0001
Small places			.7040	.3320	.2076	.0001
Medium city				.7338	.2040	.0001
Main big city					.0476	.0001
Urban fringe						.0001
Generally useful skills						
Low metro	.0001	.0001	.0001	.0001	.0001	.0001
Extreme rural		.2112	.7718	.3734	.0562	.0001
Small places			.2040	.6892	.2460	.0001
Medium city				.4472	.0404	.0001
Main big city					.1802	.0001
Urban fringe						.0001
General job knowledge						
Low metro	.5286	.0001	.0001	.0028	.0001	.0001
Extreme rural		.0001	.0340	.1052	.0001	.0001
Small places			.0768	.0120	.4716	.0001
Medium city				.5092	.0340	.0001
Main big city					.0060	.0001
Urban fringe						.0048
Specific job knowledge						
Low metro	.2846	.0001	.0001	.0001	.0001	.0001
Extreme rural		.0588	.0836	.0308	.0050	.0001
Small places			.9522	.4180	.0734	.0001
Medium city				.4354	.0990	.0001
Main big city					.4594	.0001
Urban fringe						.0001

TABLE A-2 -- *Continued*

13-Year-Olds *Continued*

	Extreme Rural	Small Places	Medium City	Main Big City	Urban Fringe	High Metro
Job knowledge						
Low metro	.1032	.0001	.0001	.0001	.0001	.0001
Extreme rural		.0046	.0444	.0252	.0001	.0001
Small places			.4066	.8104	.0688	.0001
Medium city				.6744	.0308	.0001
Main big city					.1074	.0001
Urban fringe						.0001
Self appraisal skills						
Low metro	.1286	.0220	.0028	.0001	.0768	.0001
Extreme rural		.9282	.4472	.3320	.8728	.2846
Small places			.2714	.1528	.7188	.1140
Medium city				.7490	.2040	.6384
Main big city					.1188	.8808
Urban fringe						.0910
Work-related experiences						
Low metro	.2802	.0818	.2984	.4902	.2628	.0950
Extreme rural		.8258	.7718	.5962	.9840	.8180
Small places			.4180	.2714	.7872	.9760
Medium city				.7264	.7718	.4472
Main big city					.5824	.2984
Urban fringe						.7794
Work-related values						
Low metro	.0456	.0001	.0001	.0004	.0001	.0001
Extreme rural		.0238	.1706	.3844	.0098	.0001
Small places			.3124	.2212	.4010	.0082
Medium city				.6818	.1260	.0010
Main big city					.0910	.0030
Urban fringe						.0970

TABLE A-2 -- *Continued*

All 17-Year-Olds

	Extreme Rural	Small Places	Medium City	Main Big City	Urban Fringe	High Metro
Written communication skills						
Low metro	.0062	.0001	.0010	.0204	.0046	.0001
Extreme rural		.5486	.5754	.3524	.8650	.7718
Small places			.9840	.4966	.6528	.1444
Medium places				.5686	.6818	.2262
Main big city					.4066	.0990
Urban fringe						.5892
Computation and measurement						
Low metro	.0001	.0001	.0001	.0001	.0001	.0001
Extreme rural		.5962	.3628	.5620	.5486	.1528
Small places			.5418	.8414	.8808	.0050
Medium city				.8728	.7714	.0001
Main big city					.9282	.0340
Urban fringe						.0076
Manual and perceptual skills						
Low metro	.0114	.0001	.0001	.0001	.0001	.0001
Extreme rural		.5028	.3524	.5892	.1032	.0258
Small places			.6672	.9282	.1868	.0324
Medium city				.6456	.4180	.1902
Main big city					.2076	.0548
Urban fringe						.7566
Graphic and reference materials						
Low metro	.0001	.0001	.0001	.0001	.0001	.0001
Extreme rural		.4654	.8886	.2186	.3898	.0001
Small places			.5892	.4122	.7338	.0001
Medium city				.2846	.4840	.0001
Main big city					.7040	.0198
Urban fringe						.0056
Generally useful skills						
Low metro	.0001	.0001	.0001	.0001	.0001	.0001
Extreme rural		.7338	.5892	.7338	.9602	.0802
Small places			.7264	.9282	.6384	.0001
Medium city				.8966	.4902	.0001
Main big city					.6672	.0232
Urban fringe						.0512

TABLE A-2 -- *Continued*

All 17-Year-Olds *Continued*

	Extreme Rural	Small Places	Medium City	Main Big City	Urban Fringe	High Metro
General job knowledge						
Low metro	.0001	.0001	.0001	.0001	.0001	.0001
Extreme rural		.3524	.4010	.5156	.5028	.3078
Small places			.9760	.8650	.9362	.0272
Medium city				.8966	.9602	.0414
Main big city					.9522	.0818
Urban fringe						.0872
Specific job knowledge						
Low metro	.0001	.0001	.0001	.0001	.0001	.0001
Extreme rural		.0644	.0032	.0034	.0001	.0001
Small places			.0318	.0704	.0004	.0001
Medium city				.6892	.1902	.0001
Main big city					.4778	.0056
Urban fringe						.0188
Job knowledge						
Low metro	.0001	.0001	.0001	.0001	.0001	.0001
Extreme rural		.3788	.0836	.0802	.0238	.0001
Small places			.2006	.1868	.0500	.0001
Medium city				.7338	.3898	.0001
Main big city					.6744	.0082
Urban fringe						.0188
Self-appraisal skills						
Low metro	.0001	.1556	.1770	.1336	.0990	.0052
Extreme rural		.0080	.0252	.2984	.1188	.5418
Small places			.8886	.4902	.5222	.0524
Medium city				.5686	.6384	.1096
Main big city					.8494	.5552
Urban fringe						.3222
Work-related values						
Low metro	.0001	.0001	.0001	.0062	.0001	.0001
Extreme rural		.6030	.9920	.7114	.7948	.4966
Small places			.5686	.9680	.8728	.1212
Medium city				.7040	.7872	.4532
Main big city					.8886	.3422
Urban fringe						.3472

TABLE A-2 -- *Continued*

Adults

	Extreme Rural	Small Places	Medium City	Main Big City	Urban Fringe	High Metro
Written communication skills						
Low metro	.0098	.0001	.0500	.0050	.0001	.0001
Extreme rural		.5962	.4532	.9920	.5092	.0456
Small places			.1010	.5156	.7414	.0030
Medium city				.4066	.0854	.0001
Main big city					.4238	.0174
Urban fringe						.0220
Computation and measurement						
Low metro	.0001	.0001	.0038	.0001	.0001	.0001
Extreme rural		.7490	.3174	.3078	.8104	.0058
Small places			.1416	.0930	.9124	.0001
Medium city				.9044	.1706	.0001
Main big city					.1260	.0001
Urban fringe						.0001
Manual and perceptual skills						
Low metro	.0010	.0001	.1236	.0404	.0001	.0001
Extreme rural		.4654	.2584	.4122	.3078	.0042
Small places			.0548	.0950	.5620	.0001
Medium city				.7188	.0366	.0001
Main big city					.0628	.0001
Urban fringe						.0174
Graphic and reference materials						
Low metro	.0001	.0001	.0044	.0001	.0001	.0001
Extreme rural		.4412	.6030	.5962	.2420	.0030
Small places			.1388	.0688	.3124	.0001
Medium city				.9522	.0600	.0001
Main big city					.0208	.0001
Urban fringe						.0001
Generally useful skills						
Low metro	.0001	.0001	.0062	.0001	.0001	.0001
Extreme rural		.6030	.3954	.5486	.4840	.0074
Small places			.0950	.1140	.6672	.0001
Medium city				.7188	.0688	.0001
Main big city					.0784	.0001
Urban fringe						.0001

TABLE A-2 -- *Continued*

Adults *Continued*

	Extreme Rural	Small Places	Medium City	Main Big City	Urban Fringe	High Metro
General job knowledge						
Low metro	.0062	.0001	.0300	.0001	.0001	.0001
Extreme rural		.7264	.3682	.7872	.3576	.0118
Small places			.0644	.9760	.2340	.0001
Medium city				.1770	.0160	.0001
Main big city					.4594	.0066
Urban fringe						.0046
Specific job knowledge						
Low metro	.2224	.0001	.0238	.0001	.0001	.0001
Extreme rural		.1260	.4594	.1310	.0001	.0001
Small places			.4296	.7566	.0001	.0001
Medium city				.3898	.0076	.0001
Main big city					.0512	.0001
Urban fringe						.0020
Job knowledge						
Low metro	.0628	.0001	.0178	.0001	.0001	.0001
Extreme rural		.2670	.9044	.2846	.0220	.0001
Small places			.1868	.8650	.0038	.0001
Medium city				.2502	.0052	.0001
Main big city					.1118	.0001
Urban fringe						.0001
Self-appraisal skills						
Low metro	.0588	.0096	.1362	.0854	.0001	.0001
Extreme rural		.9124	.4412	.8650	.3734	.1676
Small places			.2502	.9044	.0600	.0094
Medium city				.5686	.0174	.0032
Main big city					.2670	.1096
Urban fringe						.4354
Work-related values						
Low metro	.0704	.0001	.0308	.0080	.0001	.0001
Extreme rural		.1770	.8494	.4180	.0476	.0001
Small places			.2040	.8180	.1444	.0001
Medium city				.4966	.0476	.0001
Main big city					.3788	.0014
Urban fringe						.0001

TABLE A-3. Probability Levels for Differences Between Levels of Parental Education: 9-, 13-, All 17-Year-Olds and Adults

9-Year-Olds

	Some High School	Graduated High School	Post High School
Computation and measurement			
No high school	.1074	.0001	.0001
Some high school		.0044	.0001
Graduated high school			.0001
Manual and perceptual skills			
No high school	.0734	.0001	.0001
Some high school		.0136	.0001
Graduated high school			.0001
Graphic and reference materials			
No high school	.0768	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001
Generally useful skills			
No high school	.0076	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001
Specific job knowledge			
No high school	.1556	.0001	.0001
Some high school		.0080	.0001
Graduated high school			.0001
Self-appraisal skills			
No high school	.0784	.0001	.0001
Some high school		.0376	.0001
Graduated high school			.0600
Work-related experiences			
No high school	.9522	.0001	.0001
Some high school		.0048	.0001
Graduated high school			.0001

TABLE A-3 -- *Continued*

13-Year-Olds

	Some High School	Graduated High School	Post High School
Written communication skills			
No high school	.0001	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001
Computation and measurement			
No high school	.0074	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001
Manual and perceptual skills			
No high school	.5092	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001
Graphic and reference materials			
No high school	.0332	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001
Generally useful skills			
No high school	.0030	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001
General job knowledge			
No high school	.0001	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001
Specific job knowledge			
No high school	.0046	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001

TABLE A-3 -- *Continued*

13-Year-Olds *Continued*

	Some High School	Graduated High School	Post High School
Job knowledge			
No high school	.0001	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001
Self-appraisal skills			
No high school	.7948	.0688	.0001
Some high school		.0058	.0001
Graduated high school			.0006
Work-related experiences			
No high school	.3682	.0734	.0004
Some high school		.1236	.0001
Graduated high school			.0001
Work-related values			
No high school	.0286	.0001	.0001
Some high school		.0036	.0001
Graduated high school			.0001

All 17-Year-Olds

	Some High School	Graduated High School	Post High School
Written communication skills			
No high school	.7566	.0220	.0001
Some high school		.0001	.0001
Graduated high school			.0001
Computation and measurement			
No high school	.2340	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001

TABLE A-3 -- *Continued*

All 17-Year-Olds *Continued*

	Some High School	Graduated High School	Post High School
Manual and perceptual skills			
No high school	.2802	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001
Graphic and reference materials			
No high school	.0114	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001
Generally useful skills			
No high school	.2542	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001
General job knowledge			
No high school	.1936	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001
Specific job knowledge			
No high school	.0001	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001
Job knowledge			
No high school	.0001	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001
Self-appraisal skills			
No high school	.0588	.0001	.0001
Some high school		.0070	.0001
Graduated high school			.0001

TABLE A-3 -- *Continued*

All 17-Year-Olds *Continued*

	Some High School	Graduated High School	Post High School
Work-related values			
No high school	.0001	.0001	.0001
Some high school		.0164	.0001
Graduated high school			.0001

Adults

	Some High School	Graduated High School	Post High School
Written communication skills			
No high school	.1362	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001
Computation and measurement			
No high school	.1770	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001
Manual and perceptual skills			
No high school	.4716	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001
Graphic and reference materials			
No high school	.1416	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001
Generally useful skills			
No high school	.0836	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001

TABLE A-3 -- *Continued*

Adults *Continued*

	Some High School	Graduated High School	Post High School
General job knowledge			
No high school	.0088	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001
Specific job knowledge			
No high school	.0001	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001
Job knowledge			
No high school	.0001	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001
Self-appraisal skills			
No high school	.0394	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001
Work-related values			
No high school	.2262	.0001	.0001
Some high school		.0001	.0001
Graduated high school			.0001

TABLE A-4. Probability Levels for Differences Between Grades:
9-, 13- and In-School 17-Year-Olds

9-Year-Olds

	3rd Grade and 4th Grade
Computation and measurement	.0001
Manual and perceptual skills	.0001
Graphic and reference materials	.0001
Generally useful skills	.0001
Specific job knowledge	.0001
Self-appraisal skills	.0001
Work-related experiences	.0001

13-Year-Olds

	7th Grade and 8th Grade
Written communication skills	.0001
Computation and measurement	.0001
Manual and perceptual skills	.0001
Graphic and reference materials	.0001
Generally useful skills	.0001
General job knowledge	.0001
Specific job knowledge	.0001
Job knowledge	.0001
Self-appraisal skills	.0010
Work-related experiences	.8494
Work-related values	.0001

In-School 17-Year-Olds

	11th Grade	12th Grade
Written communication skills		
10th grade	.0001	.0001
11th grade		.0062
Computation and measurement		
10th grade	.0001	.0001
11th grade		.0244

TABLE A-4 -- *Continued*

In-School 17-Year-Olds *Continued*

	11th Grade	12th Grade
Manual and perceptual skills		
10th grade	.0001	.0001
11th grade		.2892
Graphic and reference materials		
10th grade	.0001	.0001
11th grade		.0001
Generally useful skills		
10th grade	.0001	.0001
11th grade		.0001
General job knowledge		
10th grade	.0001	.0001
11th grade		.0001
Specific job knowledge		
10th grade	.0001	.0001
11th grade		.0074
Job knowledge		
10th grade	.0001	.0001
11th grade		.0032
Self-appraisal skills		
10th grade	.0001	.0001
11th grade		.8886
Work-related values		
10th grade	.0001	.0001
11th grade		.0688

TABLE A-5. Probability Levels for Differences Between Own-Education Subclasses: Adults

	Some High School	Graduated High School-No Vocational School	Graduated High School-Attended Vocational School	<1 Year College	1-3 Years College	4-Year College Graduate	Attended Graduate School
Written communication skills							
<10 years of school	.0001	.0001	.0001	.0001	.0001	.0001	.0001
Some high school		.0001	.0001	.0001	.0001	.0001	.0001
Graduated high school-no vocational school			.3844	.0001	.0001	.0001	.0001
Graduated high school-attended vocational school				.0104	.0050	.0001	.0001
<1 year of college					.8336	.0076	.0001
1-3 years of college						.0120	.0001
4-year college graduate							.2224
Computation and measurement							
<10 years of school	.0001	.0001	.0001	.0001	.0001	.0001	.0001
Some high school		.0001	.0001	.0001	.0001	.0001	.0001
Graduated high school-no vocational school			.0044	.0038	.0001	.0001	.0001
Graduated high school-attended vocational school				.8494	.0001	.0001	.0001
<1 year of college					.0001	.0001	.0001
1-3 years of college						.0174	.0001
4-year college graduate							.1902

TABLE A-5 -- *Continued*

	Some High School	Graduated High School-No Vocational School	Graduated High School-Attended Vocational School	<1 Year College	1-3 Years College	4-Year College Graduate	Attended Graduate School
Manual and perceptual skills							
<10 years of school	.0001	.0001	.0001	.0001	.0001	.0001	.0001
Some high school		.0001	.0001	.0001	.0001	.0001	.0001
Graduated high school-no vocational school			.0930	.0414	.0001	.0001	.0001
Graduated high school-attended vocational school				.8966	.0872	.0058	.0001
<1 year of college					.0198	.0001	.0001
1-3 years of college						.1738	.0768
4-year college graduate							.7414
Graphic and reference materials							
<10 years of school	.0001	.0001	.0001	.0001	.0001	.0001	.0001
Some high school		.0001	.0001	.0001	.0001	.0001	.0001
Graduated high school-no vocational school			.2112	.0164	.0001	.0001	.0001
Graduated high school-attended vocational school				.1738	.0001	.0001	.0001
<1 year of college					.0970	.0001	.0001
1-3 years of college						.0252	.0001
4-year college graduate							.3734

TABLE A-5 -- *Continued*

	Some High School	Graduated High School-No Vocational School	Graduated High School-Attended Vocational School	≤1 Year College	1-3 Years College	4-Year College Graduate	Attended Graduate School
Generally useful skills							
<10 years of school	.0001	.0001	.0001	.0001	.0001	.0001	.0001
Some high school		.0001	.0001	.0001	.0001	.0001	.0001
Graduated high school-no vocational school			.0444	.0001	.0001	.0001	.0001
Graduated high school-attended vocational school				.1052	.0001	.0001	.0001
≤1 year of college					.0278	.0001	.0001
1-3 years of college						.0004	.0001
4-year college graduate							.1836
General job knowledge							
<10 years of school	.0001	.0001	.0001	.0001	.0001	.0001	.0001
Some high school		.0001	.0001	.0001	.0001	.0001	.0001
Graduated high school-no vocational school			.5222	.0068	.0001	.0001	.0001
Graduated high school-attended vocational school				.0658	.0001	.0001	.0001
≤1 year of college					.0818	.0001	.0001
1-3 years of college						.0001	.0001
4-year college graduate							.1868

TABLE A-5 -- *Continued*

	Some High School	Graduated High School-No Vocational School	Graduated High School-Attended Vocational School	≤1 Year College	1-3 Years College	4-Year College Graduate	Attended Graduate School
Specific job knowledge							
<10 years of school	.0001	.0001	.0001	.0001	.0001	.0001	.0001
Some high school		.0001	.0001	.0001	.0001	.0001	.0001
Graduated high school-no vocational school			.0001	.0001	.0001	.0001	.0001
Graduated high school-attended vocational school				.1444	.0034	.0001	.0001
≤1 year of college					.2340	.0001	.0001
1-3 years of college						.0120	.0096
4-year college graduate							.8104
Job knowledge							
<10 years of school	.0001	.0001	.0001	.0001	.0001	.0001	.0001
Some high school		.0001	.0001	.0001	.0001	.0001	.0001
Graduated high school-no vocational school			.0110	.0001	.0001	.0001	.0001
Graduated high school-attended vocational school				.0512	.0001	.0001	.0001
≤1 year of college					.1444	.0001	.0001
1-3 years of college						.0001	.0001
4-year college graduate							.4412

TABLE A-5 -- *Continued*

	Some High School	Graduated High School-No Vocational School	Graduated High School-Attended Vocational School	≤1 Year College	1-3 Years College	4-Year College Graduate	Attended Graduate School
Self-appraisal skills							
<10 years of school	.0001	.0001	.0001	.0001	.0001	.0001	.0001
Some high school		.0001	.0001	.0001	.0001	.0001	.0001
Graduated high school-no vocational school			.1706	.0001	.0001	.0001	.0001
Graduated high school-attended vocational school				.0734	.0001	.0001	.0001
≤1 year of college					.0444	.0026	.0001
1-3 years of college						.1868	.0036
4-year college graduate							.2006
Work-related values							
<10 years of school	.0001	.0001	.0001	.0001	.0001	.0001	.0001
Some high school		.0001	.0001	.0001	.0001	.0001	.0001
Graduated high school-no vocational school			.3270	.0142	.0001	.0001	.0001
Graduated high school-attended vocational school				.1498	.0052	.0001	.0001
≤1 year of college					.2802	.0060	.0901
1-3 years of college						.0658	.0060
4-year college graduate							.4354

TABLE A-6. Probability Levels for Differences Between Continuing-Education Subclasses: Adults

	Not Job-Related Continuing Education	Job-Related Continuing Education
Written communication skills		
No continuing education	.0001	.0001
Not job-related continuing education		.4180
Computation and measurement		
No continuing education	.0001	.0001
Not job-related continuing education		.0548
Manual and perceptual skills		
No continuing education	.0001	.0001
Not job-related continuing education		.0672
Graphic and reference materials		
No continuing education	.0001	.0001
Not job-related continuing education		.1902
Generally useful skills		
No continuing education	.0001	.0001
Not job-related continuing education		.0658
General job knowledge		
No continuing education	.0001	.0001
Not job-related continuing education		.0120
Specific job knowledge		
No continuing education	.0001	.0001
Not job-related continuing education		.1556
Job knowledge		
No continuing education	.0001	.0001
Not job-related continuing education		.0300

TABLE A-6 -- *Continued*

	Not Job-Related Continuing Education	Job-Related Continuing Education
Self-appraisal skills		
No continuing education	.0001	.0001
Not job-related continuing education		.1770
Work-related values		
No continuing education	.0001	.0001
Not job-related continuing education		.2040

TABLE A-7. Probability Levels for Differences Between Sexes: 9-, 13-, All 17-Year-Olds and Adults

9-Year-Olds

Computation and measurement	.0001
Manual and perceptual skills	.0614
Graphic and reference materials	.1236
Generally useful skills	.1188
Specific job knowledge	.8104
Self-appraisal skills	.0524
Work-related experiences	.1498

13-Year-Olds

Written communication skills	.0001
Computation and measurement	.0001
Manual and perceptual skills	.0001
Graphic and reference materials	.1586
Generally useful skills	.7040
General job knowledge	.0001
Specific job knowledge	.0718
Job knowledge	.0001
Self-appraisal skills	.1118
Work-related experiences	.0001
Work-related values	.0001

All 17-Year-Olds

Written communication skills	.0001
Computation and measurement	.0001
Manual and perceptual skills	.0001
Graphic and reference materials	.3524
Generally useful skills	.5824
General job knowledge	.0001
Specific job knowledge	.0164
Job knowledge	.0001
Self-appraisal skills	.0036
Work-related values	.0001

Adults

Written communication skills	.0001
Computation and measurement	.0001
Manual and perceptual skills	.0001
Graphic and reference materials	.1676
Generally useful skills	.1164
General job knowledge	.0001

TABLE A-7 -- *Continued*

Adults *Continued*

Specific job knowledge	.0001
Job knowledge	.0001
Self-appraisal skills	.3174
Work-related values	.0252

TABLE A-8. Probability Levels for Differences Between Home-Environment Subclasses: 9-, 13-, All 17-Year-Olds and Adults

9-Year-Olds

	3 Home-Environment Items	4 Home-Environment Items
Computation and measurement		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001
Manual and perceptual skills		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001
Graphic and reference materials		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001
Generally useful skills		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001
Specific job knowledge		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001
Self-appraisal skills		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.1498
Work-related experiences		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001

13-Year-Olds

	3 Home-Environment Items	4 Home-Environment Items
Written communication skills		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001

TABLE A-8 -- *Continued*

13-Year-Olds *Continued*

	3 Home-Environment Items	4 Home-Environment Items
Computation and measurement		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001
Manual and perceptual skills		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001
Graphic and reference materials		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001
Generally useful skills		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001
General job knowledge		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001
Specific job knowledge		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001
Job knowledge		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001
Self-appraisal skills		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001

TABLE A-8 -- *Continued*

13-Year-Olds *Continued*

	3 Home-Environment Items	4 Home-Environment Items
Work-related experiences		
Less than 3 home-environment items	.0150	.0001
3 home-environment items		.0038
Work-related values		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001

All 17-Year-Olds

	3 Home-Environment Items	4 Home-Environment Items
Written communication skills		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001
Computation and measurement		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001
Manual and perceptual skills		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001
Graphic and reference materials		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001
Generally useful skills		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001
General job knowledge		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001

TABLE A-8 -- *Continued*

All 17-Year-Olds *Continued*

	3 Home-Environment Items	4 Home-Environment Items
Specific job knowledge		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001
Job knowledge		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001
Self-appraisal skills		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001
Work-related values		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0001
Adults		
Written communication skills		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0030
Computation and measurement		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.5352
Manual and perceptual skills		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.5028
Graphic and reference materials		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0414

TABLE A-8 -- *Continued*

Adults *Continued*

	3 Home-Environment Items	4 Home-Environment Items
Generally useful skills		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0628
General job knowledge		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0026
Specific job knowledge		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.5120
Job knowledge		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.0114
Self-appraisal skills		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.6384
Work-related values		
Less than 3 home-environment items	.0001	.0001
3 home-environment items		.3844

TABLE A-9. Probability Levels for Differences Between Family-Income Levels: Adults

	$5,000-10,000	$10,000-15,000	>$15,000
Written communication skills			
<$5,000	.0001	.0001	.0001
$5,000-10,000		.0001	.0001
$10,000-15,000			.0050
Computation and measurement			
<$5,000	.0001	.0001	.0001
$5,000-10,000		.0001	.0001
$10,000-15,000			.0001
Manual and perceptual skills			
<$5,000	.0001	.0001	.0001
$5,000-10,000		.0001	.0001
$10,000-15,000			.2802
Graphic and reference materials			
<$5,000	.0001	.0001	.0001
$5,000-10,000		.0001	.0001
$10,000-15,000			.0001
Generally useful skills			
<$5,000	.0001	.0001	.0001
$5,000-10,000		.0001	.0001
$10,000-15,000			.0001
General job knowledge			
<$5,000	.0001	.0001	.0001
$5,000-10,000		.0001	.0001
$10,000-15,000			.0001
Specific job knowledge			
<$5,000	.0001	.0001	.0001
$5,000-10,000		.0001	.0001
$10,000-15,000			.0001

TABLE A-9 -- *Continued*

	$5,000-10,000	$10,000-15,000	>$15,000
Job knowledge			
<$5,000	.0001	.0001	.0001
$5,000-10,000		.0001	.0001
$10,000-15,000			.0001
Self-appraisal skills			
<$5,000	.0001	.0001	.0001
$5,000-10,000		.0001	.0001
$10,000-15,000			.0614
Work-related values			
<$5,000	.0001	.0001	.0001
$5,000-10,000		.0001	.0001
$10,000-15,000			.0046

APPENDIX B

ESTIMATES OF PERCENTAGES OF BLACKS, WHITES, OTHER RACES AND NATION IN SELECTED CATEGORIES OF SELECTED VARIABLES FOR YOUNG ADULTS

The following four tables contain estimated percents of the national, black, white and other populations in each of the reporting groups listed. They are included in hope that these data can help one understand the race performance differences better.

The data are the estimated percentages of blacks, whites, other races and the nation in each classification shown. Several variables are not included at all, and three size-and-type-of-community variables are not included. The tables do not give the percent of persons in a reporting group that are black, white and etc. That is, they do not estimate the percent of persons living in the Northeast that are black. Instead one can find the percent of all blacks who live in the Northeast.

TABLE B-1. Percentage of Racial Groups in Each Region

	Southeast	Northeast	West	Central
Black	35.85	28.59	15.71	19.85
White	21.43	25.17	26.01	27.39
Other	3.47	27.34	63.52	5.67
National	22.35	25.60	26.17	25.88

TABLE B-2. Percentage of Racial Groups in Selected Size-and-Type-of-Community Classifications

	Low Metro	Small Places	Urban Fringe	High Metro
Black	33.39	13.78	8.14	1.97
White	4.46	44.47	10.96	13.62
Other	21.79	12.21	22.14	7.87
National	8.07	40.17	11.03	12.21

TABLE B-3. Percentage of Racial Groups in Each Parental-Education Classification

	Unknown	No High School	Some High School	Graduated High School	Post High School
Black	5.09	39.73	25.13	16.22	13.83
White	2.91	22.14	15.04	32.66	27.26
Other	2.52	49.77	14.38	18.97	14.35
National	3.12	24.90	16.07	30.48	25.42

TABLE B-4. Percentage of Racial Groups in Each Family-Income Classification

	Unknown	<$5,000	$5,000-10,000	$10,000-15,000	>$15,000
Black	1.77	21.08	37.37	21.85	17.92
White	1.62	6.03	21.86	35.02	35.46
Other	0.00	10.62	45.31	29.10	14.98
National	1.58	7.77	24.27	33.44	32.94

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